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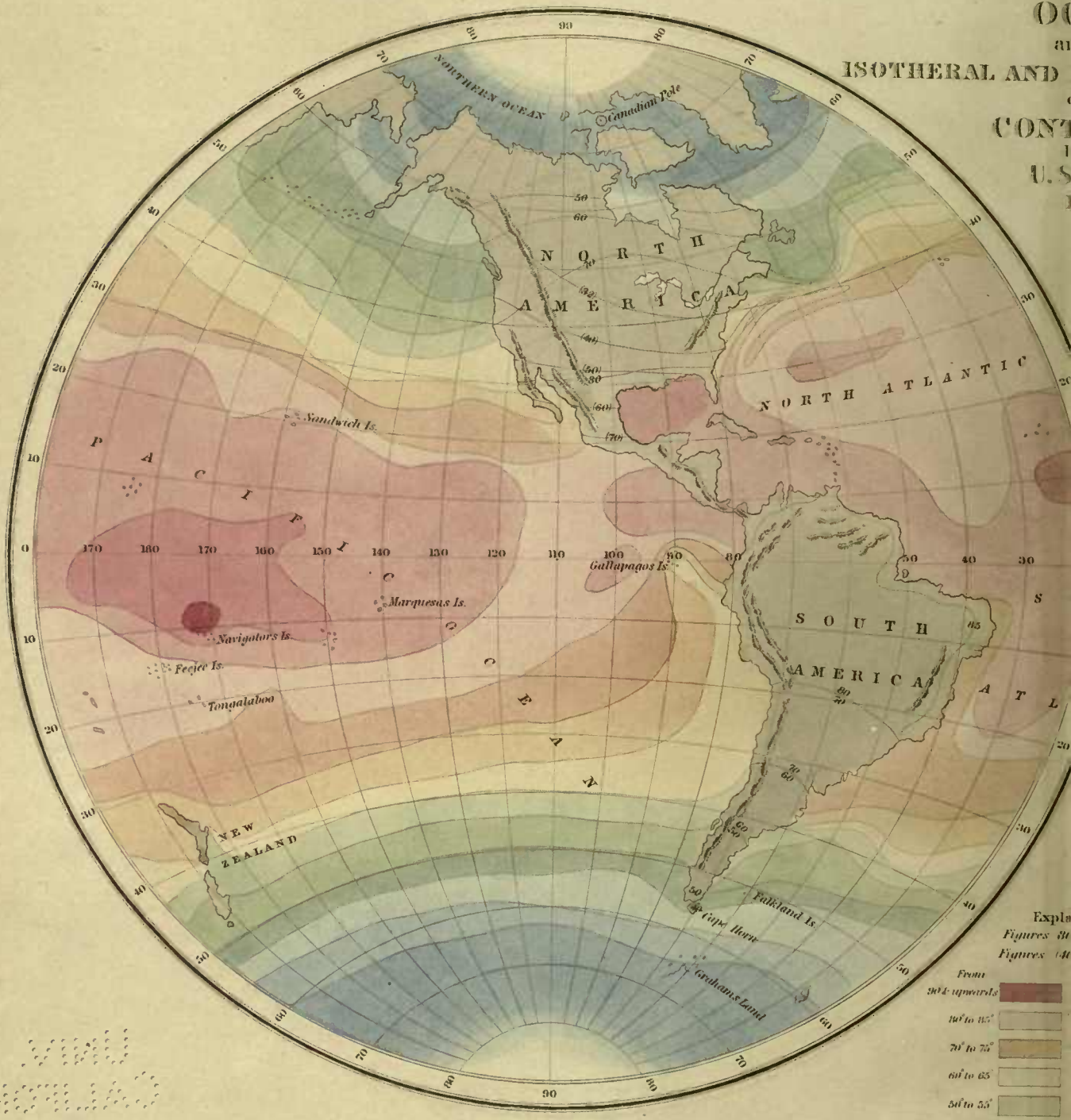

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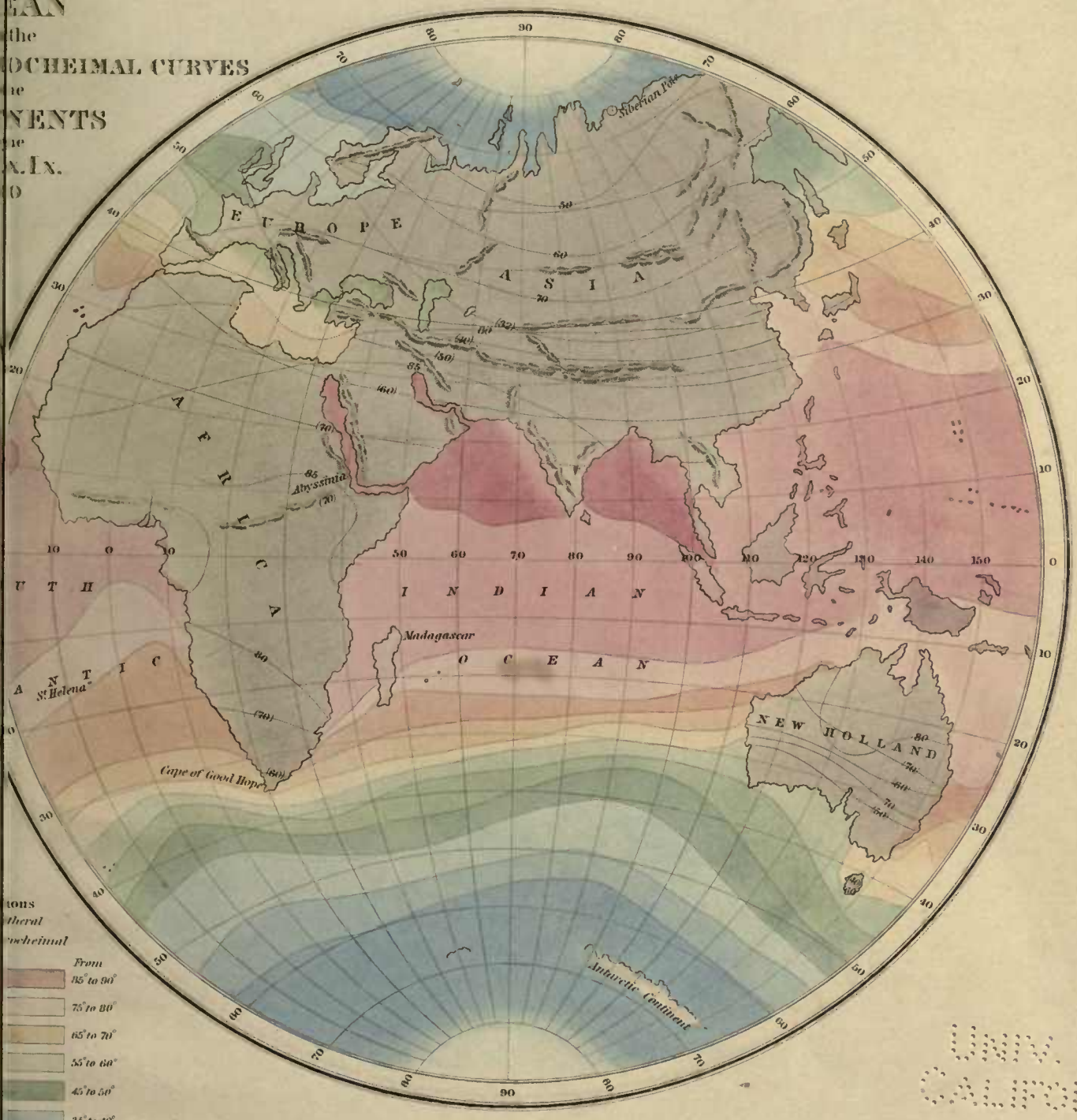

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UNITED STATES

EXPLORING EXPEDITION.

DURING THE YEARS

1838, 1839, 1840, 1841, 1842.

UNDER THE COMMAND OF

CHARLES WILKES, U.S.N.

VOL. XI.

METEOROLOGY.

BY

CHARLES WILKES, U.S.N.,

MEMBER OF THE AMERICAN PHILOSOPHICAL SOCIETY, ETC.

WITH

TWENTY-FIVE ILLUSTRATIONS.

PHILADELPHIA:
PRINTED BY C. SHERMAN.
1851.

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INTRODUCTION.

TABLES of meteorological observations afford but little information and give a very indefinite idea of the changes that have taken place in the natural phenomena to which they relate, even to those who are familiar with them; they require some elucidation to bring the results at once under the eye, and to the mind: in order to effect this object, a series of illustrations have been constructed, which exhibit all the results of the observations of the Exploring Expedition, at sea as well as in port.

I have also deemed it expedient to add a few remarks under each head of observations, pointing out some of the results deducible therefrom, as well as giving other information, derived from authentic sources, likely to throw some light upon the climates and their vicissitudes, in those parts of the globe visited by us.

On the diagrams, the barometrical observations have been reduced to a uniform temperature (32° Fahr.), and to the level of the sea, and corrected for instrumental errors, as well as brought to the standard of the Royal Society, London, with which they were originally compared; in this respect only they differ from the tables. To each series of observations a diagram is annexed.

It was my desire to give all the observations made by the Expedition during the period of our four years' absence from the United States; but I found it impossible to condense them in such a manner as to exhibit the results without confusion. The Meteorological Journal of the Vincennes has, therefore, been adopted throughout in the body of this work, and the Journals kept on board the other vessels of the squadron, on their separate cruises, have been added in the Appendix. The results are thus made to extend over a large area. To have given them separately, would have been but publishing

duplicates, and occupying three times the space they now fill in this volume; and although it might have given a fuller idea of the duties performed by the officers of the Expedition, yet it would have been of no advantage commensurate with the expense that would have been incurred.

The Meteorological Registers that were kept in connexion with the Expedition at Cambridge, Mass., by Wm. Cranch Bond, Esq., Astronomer, Harvard College, and at the naval depôt, Washington City, by Lieutenant J. M. Gillis; with many others obtained through the kindness of friends, that were kept at the various places visited by the Expedition, some made by authority, and others by individuals deeply interested in this branch of science, have been incorporated on the diagrams, thus enabling me to make a comparison with the daily results of the Expedition at many places of great interest, particularly those on our western or Pacific coast, and others on the eastern, situated in nearly corresponding parallels of latitude.

The duty of keeping the Meteorological Journals on board ship was assigned to the medical officers of the Expedition; those kept at the observatories were superintended by the officers who were from time to time engaged in astronomical duties. In some places omissions will be observed: these have occurred from the unavoidable absence of the officers on other duties, or from accidents to instruments, which could not for a time be replaced.

The meteorological instruments used by the Expedition were procured in 1836, from the best makers in England, France, and Germany; others were prepared by Fisher, of Philadelphia, with great care and accuracy. They were all compared with the standard, with which they agreed. It was deemed essential at the beginning of the cruise, to insure a uniform mode of observation by all the officers; the method of procedure was pointed out to all who were to be engaged in the duty, and, it is confidently believed, was adhered to throughout. Books of formulæ were prepared for recording the observations.

The diagrams scarcely need explanation; they are of two kinds: those giving the results at the observatory stations will be familiar to all;—the others, exhibiting the phenomena on the passages, are constructed on maps of Mercator's projection, showing the track of the ships for each day; lines drawn perpendicular, passing through the figures on the track, will intersect the horizontal lines of temperature, the scale of which will be found on the right or left hand column.

The mean daily results of the barometer is given on a suitable scale above and below 30 inches.

The hours chosen for observation were those generally adopted, viz.: 3 A. M., 9 A. M., 3 P. M., and 9 P. M., according to civil time; when it was deemed desirable, more frequent observations were ordered. At the observatories, hourly observations were made, and throughout the voyage, hourly observations of the temperature of the air and water were taken, both at sea and in port. A thermometer placed at the mast-head was also observed at the hours above indicated; it was sheltered from accident by a small covering, which did not obstruct the free passage of air: this served to check the results on deck, proceeding either from reflection or the influence on the temperature arising from a crowded ship.

The barometer for the use of the observatory was an ivory float gauge, made by Troughton & Simms; its diameter of tube was 0·35 in., and its error on the Royal Society's standard ·007. This was considered the standard: it continued in use throughout the voyage, and was in perfect order at the return of the Expedition, having been used in the final experiments at Washington. It was read off to thousandth parts.

We had several standard thermometers by Troughton & Simms, Dolland, and Jones, of Charing Cross, both for air and water, graduated on metal and ivory to half degrees, and easily read off to tenths; the length of scale 18 inches; also several self-registering spirit thermometers, among them, those of Six. The hygrometers in use were Pouillet (a capsule), Daniels, the silver cup, and the wetted bulb.

The Photometer and Ætherioscope of Leslie were used.

The rain gauge was that of Dewitt, a cone of nine inches in height by six at the base; it was measured by a rod graduated to hundredths. It was placed at the end of the spanker-boom, where it was free from the drip of the sails or rigging. The quantity of water that fell was measured immediately after rain.

The force of the wind was noted in the usual way by the different observers. For the sake of space in the tables, the expressions have been changed into numbers.

CAPE HENRY TO MADEIRA.— This passage occupied twenty-eight days. The diagram (Plate I., page 18) elucidates the meteorological data, by an inspection of which they will clearly appear; the temperature of the water due to the Gulf Stream will point out its width, and the influence it exerts over the air. The movement of the barometer, as well as that of the temperature, is satisfactorily exhibited in the gale of the 26th and 27th of August, which was encountered on the outer edge

of the Gulf Stream. It will be seen we passed without the Gulf Stream, in longitude about 60° west, yet we continued to be carried onward by an easterly current, until we reached the longitude of 45° west. The temperature of the water during this passage between the latitudes of 32° and 42° N. was generally higher than that of the air; the difference in temperature of the ocean on the two sides was nearly 7°, although we had decreased our latitude 4°, and this gradually from the United States to Madeira. The mean temperature of the water was 76·8°, and that of the air 75·1°, which will express the standing of the thermometer in the Atlantic within these parallels for the months of August and September.

The mean height of the barometer was 30·215, which is higher than it ranged at any other time during the voyage. Easterly winds were found to have a tendency to elevate the column, while those from the western quarter depressed it. The mean degree of moisture on this passage was ·666.

MADEIRA.—Whilst at Madeira, the mean standing of the barometer was 30·176 in.; mean temp. of the air 74·9°; water 73·6°. We found the height of the vapour plain to be about 4,000 feet above the level of the sea, which, according to our measurements, corresponds with that of the height of the Roche d'Empeña, observed to be the highest point of cultivation. There is little doubt that the vapour plain must have considerable influence upon the climate of Madeira as well as its productions. In determining the altitudes of this island, an opportunity was afforded us of ascertaining the decrease of temperature as to elevation: the result of simultaneous observations gave for the altitude of Pico Ruivo (6,180 feet), 254·1 feet for each degree of temperature, that of Roche d'Empeña (4,100 feet), 384·2 feet, and that of Camancha (2,000 feet), 333 feet. The observations were made between meridian and 6 P. M.

The degree of moisture at Madeira was ·599.

MADEIRA TO RIO JANEIRO.—This passage occupied a period of fifty-nine days, including two days' delay at Porto Praya. Between Madeira and Porto Praya (18° of latitude), the water and air increased in temperature 9°, the former being generally two degrees warmer. The trade winds were met with in the latitude of 27° north; previous to which we experienced a strong breeze, whose limit included some of the vessels of the squadron, carrying them rapidly onward, while the others were left for several hours becalmed. These winds are of most frequent occurrence at the outer verge of the trade winds, and particularly on the eastern side of the Atlantic: though no doubt

often noticed by others, I have nowhere found them alluded to. The direction from which the wind came, in the instance referred to, was northeast, and so brisk as to carry the ship onward at the rate of seven knots.

One of the phenomena met with on this passage was the red misty haze so prevalent in this track. The state of the meteorological instruments under which it occurred was as follows, viz.: barometer reduced to 32°, 30·020 inches; temperature of the air, 78°; temperature of the water, 82°; degree of moisture, ·706. Wind from the northeast to east-northeast, light and clear over head. During the continuance of the mist a heavy shower occurred, which lasted for an hour; on its cessation, the dew-point was found at its former standing, but the temperature of the air had fallen 3°. I was at first inclined to believe this phenomenon was the result of the difference of temperature between the air and water, but as I afterwards observed the same haze when there was little or no difference noticed, though the trials were repeatedly made, I cannot impute it to such a cause. The most remarkable circumstance accompanying this mist or haze is its red colour. That which occurred at Porto Praya had a great resemblance to the "dry fogs;" no particles of matter were observed floating in the atmosphere to produce the red colour. During its continuance the sky is clear, and cirrus clouds are often visible, but the horizon is at all times ill-defined and much obscured; objects are quite indistinct and apparently diminished in size, the effect of the red mist being entirely the reverse of what takes place in fog. The cause of this phenomenon, it appears to me, is to be found in the intermingling of currents of air of different temperatures in the higher atmosphere, producing condensation, which descends, and passing through strata both warmer and drier become again absorbed; hence no deposition takes place, and whilst this condensation and absorption are going on, the phenomenon is seen. That this is the case I think is proved by the state of the mast-head thermometer, it being invariably found to be some two to five degrees lower than that on deck during the continuance of these mists. The red appearance I think may be accounted for by the refraction and reflection of light: as the sun attains the zenith the reddish tint becomes deeper, but is variable according to the angle in which the light falls; in places it is of a lighter hue, and frequently assumes a patched or mottled appearance. At nightfall the same phenomenon takes place, but then there is a deposition which assumes all the appearances of dew, but totally distinct as

regards the requisites for the formation of dew, as laid down by Dr. Wells. Dew, according to that gentleman, is caused by the following circumstances:—

1st. A fall of temperature in the stratum of air in contact with the soil.

2d. The soil must be previously heated, and the vapours rise, so as to be encountered by a descending current, which brings the vapours back to the earth without the air being saturated.

3d. After sunset, when the weather is calm and serene, the soil radiates heat, and its temperature descends several degrees below that of the contiguous stratum of air; and this causes the deposition to take place.

4th. The fall of temperature always precedes the formation of dew.

5th. Dew is deposited more copiously on bad than on good conductors of heat.

According to our observations:—

1st. Dew is not accompanied or preceded by any fall of temperature near the surface.

2d. The deposition even takes place before sunset, and very frequently during a brisk breeze, the sky being clear, and stars visible.

3d. The temperature never descends or changes, and in all cases has been found two or three degrees above the contiguous air.

4th. There is no fall of temperature in the stratum of air in contact with the ocean.

5th. All substances, whether good or bad conductors of heat, are equally covered with dew or the deposition.

It will thus be seen that the requisites for the formation of the phenomenon of dew, according to Dr. Wells's theory, are totally wanting in the production of the same phenomenon when it came under our observation.

It is not my wish to controvert or deny the truth of Dr. Wells's beautiful theory, so long received as the true solution of dew, but it is plainly deducible from the facts stated, that dew is otherwise formed, or that which we have witnessed is a totally distinct phenomenon, as far as its formation goes, or that there are two distinct and nearly opposite modes in nature of producing the same result. The theory of the formation of dew by Dr. Hutton appears to me to account for the phenomenon as witnessed by us, and to establish that the same causes produce it as go to the formation of the mists before referred

to, with this difference, that the precipitation in its descent does not become again absorbed.

The experiments I have occasionally been able to make on land, relative to the formation of dew, have been but few during the voyage, but I feel satisfied that the same phenomenon occurs without a change taking place in the temperature of the soil, particularly in low latitudes, and that the deposition is attributable to causes operating in the atmosphere above, as before indicated; and fully believe that these depositions are far more beneficial to vegetation, and consequently to the agriculturist, from the fact that the soil does not undergo any change as to temperature that would serve to check growth, at the same time that it enjoys the beneficial effects of the moisture.

Between the latitudes of 5° and 9° 30′ north, we experienced the equatorial rains: the amount which fell in ten days was 6·15 inches, its temperature 69° to 72°; the greatest fall in twenty-four hours, 1·95 inch. The variable or rainy zone, at the time we crossed it, extended from 4° to 12°, north latitude, which gives it a width of five hundred miles. The maximum heat of air and water occurred in 8° 30′ north, and in 24° west longitude; which corresponds very nearly to the centre of the belt. We were detained within it twenty-three days, during which time the mean standing of the barometer was 29·987 inches, and the mean temperature of the air 79·6°, and that of the water 82·07°; the degree of moisture ·734; the winds were light and variable, generally from the northward and westward, though inclining to calms; the movement of the upper stratum of clouds was to the westward during our traverse across the zone.

On the equator, the oscillations of the barometer were found to correspond to 3 A. M. and 3 P. M., 9 A. M. and 9 P. M.; the variation was equal to ·1 of an inch; this is the result of hourly observations for a period of forty-eight hours; the actual observations have been already published, and will be found in Appendix XVI., Vol. I., of the Narrative. The southeast trades were entered in 3° 50′ north latitude: these winds, at the season of the year we passed through them, were found to increase as the sun was approaching the meridian, and to continue until the afternoon, when they decreased until towards evening, after which they again increased until towards daylight. The weather from the latitude of 3° north is generally fine throughout the year. A variation in the monsoons is experienced as the coast of Brazil is approached: they blow from October to March from the northward

and eastward, and from April to September from the southward and eastward. These winds appear to exercise much influence on the climate of Brazil.

RIO DE JANEIRO.—Our observations at Rio were continued through a period of forty-four days. The highest range of temperature we experienced was 93° Fahr., and the lowest 68°—the mean being 77·5°. The mean barometer, reduced to 32° Fahr., 29·899 inches; the oscillation of the mercurial column was ·710 in. The tropical hours were for the minimum at 3 A. M. and 3 P. M.; the maximum appears to have been deferred until between the hours of 10 and 11 A. M. and P. M. The degree of moisture ·796. The mean temperature of sun's rays 83°, the maximum being 117°, while the minimum was but 70°. The mean annual temperature, as determined by the thermometer placed in a well twelve feet below the surface, on the island of Enxados, was 75·98° Fahr. The mean annual temperature, as determined by J. Gardner, Esq., which he obligingly furnished me, the day observations for nine years, was 77·01°; the highest range of the thermometer was 93°, in the month of February, and the lowest 64°, in the months of July and August. From these data Rio Janeiro does not appear to possess a warm climate, yet it seems so to the feelings; the heat during the morning hours, between the times of the land and the sea breezes, is excessive. The range of the photometer while at Rio was between 5° and 100°. The climate is a very equable one, as will appear by the mean monthly temperature for six years, represented on the diagram, Plate III., page 74.

The rains occur in every month in the year, and there is very little difference in the number of rainy days; the greatest quantity, however, appears to fall during the months of December, January, February, and March. There has been no measurement of the annual quantity of rain, that I am aware of. During the summer months the rain usually falls in thunder-gusts, which arise in the southwest; these occur in the afternoon, between the hours of four and six, are very violent, the rain falling in torrents. The wind at Rio generally alternates between the land and sea breezes, which both tend to diminish the heat of the climate. On the coast of Brazil, the tropical or northeasterly monsoon blows during the summer months, viz., from October to March, and the southeasterly monsoons during those of the winter. These may be said to cause the vicissitudes of the climate. During the latter season, gales of wind prevail from the south. We cannot fail to remark, on inspecting the diagrams on Plate III., page 74,

the regularity with which the air and water have followed each other in temperature, leading to the belief that the former is influenced by the latter in the extensive estuary which forms the Bay of Rio, the lines indicating the mean daily result being almost parallel to each other.

The sea-breeze tends very much to moderate the heat of the climate. Its setting in during the time of our visit was extremely irregular, sometimes not until 3 P. M., but it generally commences between 9 and 10 o'clock in the morning, and its average duration is from seven to eight hours; during the night a land-breeze relieves the heat of the climate: the hottest part of the day is the interval between these two winds. The fair days in the year are about two-thirds; one-sixth are cloudy, and a sixth rainy. During the summer months little dew is said to fall, but in the winter it is reported as occasionally very copious.

RIO JANEIRO TO RIO NEGRO.—The route pursued was about one hundred miles from and parallel to the coast of South America. By referring to the diagram on Plate IV., page 94, it will be seen that great and sudden changes took place in the temperature of both air and water between the latitudes of 36° and 40°, which was in the immediate neighbourhood of the River La Plata, and whilst crossing its mouth. This temperature may mark out the width of the mouth of this river, but I am inclined to consider it as the effects of a cold current from the south setting in on the coast: the breadth of this space in a line parallel with the coast was three hundred miles. I have been unable to ascertain the temperature of the waters of the La Plata during the month of January, but believe it to be higher than the point to which the temperature fell. The winds during our voyage were light, from the southward and eastward, and the weather generally fine. The thermometer had fallen 11° in these 18° of latitude, one-half a degree for each degree of latitude. The mean barometric pressure had decreased ·115 in.

RIO NEGRO.—Our stay at the mouth of the Rio Negro (which is the northern boundary of Patagonia, lies in latitude 41° south, and is the most southern of the former Spanish settlements on the eastern side of South America) was too short to obtain any series of observations which would increase our knowledge of the climate; but as the meteorology of this part of the world is extremely interesting, and but little known, I deem it advisable to give some of the results obtained during the time of our detention there.

The mean temperature of the air in the roads was 66·4° Fahr., that

of the water 67·3°; the mean standing of the barometer 29·784 in., and the mean degree of moisture ·798. The winds were variable, generally light, from the east or seaward; with these the barometer rose, while those from the southwest depressed it. The range of the photometer was from 20° to 93° during fine weather and a clear sky. A thermometer placed three feet below the surface for several hours showed 75·5°; another placed in the sand rose to 114°, and continued so from 9 A. M. till noon; one covered with wool, a foot above the soil, stood at 90°, while an uncovered one similarly situated showed 82·3°. During these trials the degree of moisture was ·854, the wind moderate from the northeast, and the sky quite clear. The temperature of a cave, inclined about thirty-five degrees to the horizon, and twelve feet deep, with south exposure, situated in a bluff of soft gray sandstone, having a perfectly horizontal stratification, was 70° Fahr.: although this affords but an approximate result for the mean temperature, yet it indicates a very high mean annual temperature for the latitude. That such is the case seems very probable from the accounts derived from the most intelligent of the inhabitants at the Rio Negro on the east, and San Carlos de Chiloe on the west, lying nearly in the same latitude, and which are the most southern points where settlements have been formed: at both places snow and ice are seldom seen; they experience no severe cold; but frosts are frequent during the winter months, from May to October, when gales of wind are experienced from the southward and eastward.

The great peculiarity of the climate of Patagonia is its dryness. The pampas are destitute of verdure, and unfitted for the abode of civilized man, except in a few localities where the rivers which flow from the interior enable cultivation to be carried on by irrigation. The situation of the southern part of South America, which includes Patagonia and New Chili, is peculiar, occupying a strip of continent only three hundred miles in breadth, lying between the two great oceans, the coasts of both sides trending nearly north and south, a lofty range of the Andes extending throughout its entire length and covering one-fifth of its width; with the wide and barren pampas on the east, and the narrow and luxuriant forests on the west, rising even to the limits of eternal snow; the former enjoying a clear and cloudless sky and a dry and temperate atmosphere, while the latter is subject to violent gales of wind from the westward, accompanied by heavy rains, producing a redundancy of moisture and almost constant cloudy weather, yet with a like temperate climate. The cause of these

opposite effects is believed to be one and the same. The westerly winds which prevail on the Pacific coast, after being deprived of their moisture by condensation on the Andes, rush onward towards the pampas to supply the partial vacuum produced by the heated surface of the plains; being destitute of moisture they absorb it from the soil, rendering it dry and unproductive, and causing the excessive evaporation that is experienced in the salt lakes of the interior, which are said to form a crust of salt of considerable thickness on their surface in twenty-four hours.

RIO NEGRO TO ORANGE HARBOUR.—The passage from Rio Negro to Orange Harbour was made in the month of February. In the latitude of 44° south the temperature of both air and water fell 11°, which was in part owing to our having entered the cold currents from the south: the waters along the coast are of a higher temperature, which may be owing to the prevalence of northerly currents, or the influence of the tides. A farther depression of the barometer took place, with an increase of the degree of moisture. The winds and changes of the weather had become sudden, and everything betokened, as we approached Cape Horn, that we had entered an inclement and fickle climate. Refractions, and the phenomena of halos, parhelias, &c., were frequently seen; some of these have been previously described in the Narrative of the voyage, Vol. I., page 112, (4to. edition.) The weather in the immediate neighbourhood of Cape Horn we found delightful, with light easterly winds, which, except at the periods of the equinoxes, are uncommon. The winds from the time of our leaving the Rio Negro were from the southwest, and at times blew in violent gales of short duration, accompanied with sleet and snow, although it was midsummer.

ORANGE HARBOUR.—Orange Harbour is situated within the collection of islands which form the southern point of the continent, and thirty miles to the northward of Cape Horn, on the west side of the Bay of Nassau, which is surrounded by undulating hills, six hundred to one thousand feet in height, covered with a dark forest of birch, beech, willow, &c. The mountains to the north are seen capped with snow. Many of the high peaks are entirely destitute of vegetation, exhibiting only a bold projecting outline of bare rocks. The soil is found to be saturated with water, and covered with a growth of mosses, even on the highest hills. The face of the country indicates pretty accurately the nature of the climate. Our stay was from the beginning of February till the latter part of April.

The great peculiarity of the climate is its moisture. It may truly be said that there is not a day without some deposition in the form of either fog, mist, rain, snow, or sleet. The diurnal oscillations of the barometer were found to be ·175; its extreme variation 1·420 in., its mean standing being 29·545 in. At the time of the autumnal equinox of the southern hemisphere, the oscillations of the barometric column reached ·638 above its mean standing. The climate is not a cold one: the temperature during the latter part of our stay was probably not far from the mean annual temperature, viz., 46·7°, and its mildness may be accounted for by the quantity of moisture which exists: the mean degree of moisture we found to be ·907. The daily range of the thermometer is small, seldom more than 10°. The sun exerts little influence, the sky even in the finest days being for the most part overcast. The temperature shown by the thermometer freely exposed to the sun gives a difference of 7° Fahr. The mean temperature of the water was 48·7°. This would indicate a higher mean than the air; but it must be recollected there are influences existing beyond the limits of this locality, in the form of currents, which may bring the warmer or colder waters within the bays of Tierra del Fuego: such is probably the case. It will be seen by the diagram on Plate V., page 126, that the water maintained a higher temperature than the air, although it had a gradual decrease of 9° Fahr. as the season advanced. The prevailing winds were from the southwest: we had thirty-four days from that quarter, four and a half from the northward and westward, four and a half from the northward and eastward, and one and a half from the north. Nothing can afford a stronger evidence of the nature of the climate, than the fact of six gales of wind having occurred within the space of twenty days; they were all of extreme violence, though differing in duration, the shortest being but nine hours, whilst the longest was more than twice that time. On Plate V. there is a small diagram of the movement of the barometer during these gales, verifying the remarkable fact before mentioned, that a rise of the column is coincident with the beginning of a gale; and it may be farther remarked, that, so long as the mercury is descending, fine weather continues. The thermometer also seems in some measure to indicate the coming gales by a sudden fall; this, however, may be owing in part to the change in the dew-point, which was observed to fall previous to these occurrences, showing greater evaporation and consequent cold.

A similarity of movement in the barometer and thermometer is satisfactorily exhibited on the diagram of our observations at this place.

Rain fell during thirty consecutive days to the amount of 8·26 in.; this was the season in which there is least. The greatest fall in twenty-four hours was 1·08 inches.

The opinion has been and is still entertained, that the temperature of the southern hemisphere is much lower than that of the northern; if this opinion is founded on the standing of the thermometer, I have little doubt that it will prove erroneous, and that the mean annual temperature will be found higher in the southern than the northern hemisphere, while the difference between the maximum and minimum is probably much less. That the cold of winter cannot be so great is evident from the habits of the natives of Tierra del Fuego, who use little or no covering throughout the year. I may also adduce the standing of a self-registering thermometer, that was left by Lieutenant Kendall, of H. M. S. Chanticleer, at Deception Island in 1829, which when examined thirteen years afterwards was found to have fallen only to —5° Fahr., a much less degree of cold than it would have shown on the parallel of 63° north latitude.

ORANGE HARBOUR TO VALPARAISO. — This passage was made in the months of April and May: it was a boisterous one, and occupied twenty-three days. The extreme latitude we reached was 58° S.; the lowest temperature of the air was 37°; the water 4° warmer. The mercurial column continued to descend until we reached our most southern point, then it as gradually rose without much variation, until we had attained the latitude of 43° south, and passed through the stormy latitudes, which are comprised between the forty-third and fifty-second parallels of latitude. Our distance from the coast was about two hundred miles, and our course parallel to it. The winds we encountered were violent from the northwest to southwest, which are the prevailing winds on the west coast of South America, before spoken of as being accompanied with much rain: we had but little rain, though the mean degree of moisture was ·881. The parallels of latitude in which these violent winds from the southwest and northwest constantly blow are well known, but their extent in longitude is as yet undetermined; yet there is very little doubt that they have their limits, and it is believed that they extend only a short distance to the west in the great basin of the Pacific, as they are not experienced to the westward of 90° west longitude, about five hundred miles from the coast. How much their direction, velocity, and bois-

terous character are due to the influence of the neighbouring continent, it is impossible to conjecture, but it appears very reasonable to suppose that the peculiar formation of this part of South America, already referred to, may exercise sufficient influence over the aerial currents to cause the effects we experience in these latitudes. If condensation and rarefaction are continually going on over a large surface, we see sufficient cause why these currents should not only prevail in the directions indicated, but that they should continue to keep up the same efforts to restore the equilibrium which is being constantly destroyed, and the more rapid the action is on the one hand the more violent it would be on the other. That these winds are the most boisterous during the summer of the southern hemisphere, we believe is generally admitted: such has been the result of our inquiries.

On arriving at the forty-second parallel, we were met by the northerly monsoons of the coast of Chili, which continued without cessation until we reached the latitude of 36° south, when we encountered a gale, during the continuance of which the barometric column had a downward tendency, and did not begin to rise until the height of the gale was over. Afterwards, we were favoured with the southeast trades. This length (nine days' duration) of the northerly monsoons at this early day (12th May) was unlooked for, but from information I received, such storms frequently occur from April to September.

After our arrival at Valparaiso, I found that light north winds had prevailed there, with calms and fog, which latter is a common accompaniment. It has been remarked above that a large amount of rain falls on the west coast of South America to the southward of the fortieth parallel, notwithstanding the atmosphere is not near the actual point of saturation: the fact that the crops are gathered in a wet state, and spread over the floors of the houses to be dried and cured, is conclusive that such is the case, and that the process of evaporation must be extremely rapid. Captain King, during his stay at San Carlos in 1829, gives the standing of the barometer reduced to 32°: for September 30·061, October 29·979, November 29·898; the mean temperature 50·5°; the quantity of rain 10·79 in., and the degree of moisture ·833, and this was considered the fine season.

VALPARAISO. — Our arrival at Valparaiso was in May, the last autumnal month of the southern hemisphere. Our stay was limited to a few weeks. Through the kindness of Mr. Robert Heath, of Valparaiso, we were allowed to take a copy of his meteorological observa-

tions made at the Bolsa (Exchange), for the two years preceding our arrival. The observations of Mr. Heath have been reduced to our standard for temperature, &c. I was gratified to find that by a comparison made with that of Mr. Pentland the year previous, Mr. Heath's instrument showed the same deviation as with ours, when reduced to the Royal Society's standard. I have given the results of Mr. Heath's observations on Plate VI., page 138, where the tri-monthly means are shown, and also the days of the month on which the maximum and minimum occurred; it will be seen that the extreme annual range of the thermometer is from 50° to 86°, a difference of 36°; that the mercurial column has a higher range during the winter and spring months than it has in the summer and autumn, which seasons correspond with the north and south monsoon. It is to be understood that these observations do not include the night hours, and but eight hours of the twenty-four, viz., from 8 A.M. till 4 P.M., at which times and at noon the observations were made. It certainly would have been desirable to obtain a series including the night hours also; but these day observations nearly correspond to the maximum and minimum hours, and, although imperfect, they may be regarded as throwing some light upon the movements of the mercurial columns at Valparaiso, until more perfect ones are made. According to them, the mean annual temperature is 66·1° Fahr., and the mean standing of the barometer 29·987 in.; greatest oscillation ·570.

Chili occupies but a narrow strip of the western side of the vast continent of South America, extending through twenty degrees of latitude. It has the lofty range of the Andes as its eastern boundary, and numerous spurs of great elevation intersecting the country in many parts, which, with the cold waters flowing along its shores, must materially affect the climate in particular localities. The climate of Valparaiso cannot be taken as any criterion by which to judge as to that of the country; indeed it may be remarked that what may be descriptive of one section will not by any means accord with that of another; from its extreme southern to its northern point the climate differs very materially. Throughout the whole length of the coast, a distance of over one thousand miles, and this trending north and south, the thermometer varies only a few degrees: the great and remarkable variation is in the degree of moisture, for while the extreme south has constant rains, the extreme north is totally destitute of moisture, the country incapable of cultivation and quite a desert; between the two we have a constant gradation. The cause seems to be obvious:

where the ocean or westerly winds prevail, they deposit their moisture; these do not extend farther north than the Rio Maule, in latitude 35°, from which point the monsoons blow parallel with the coast; during the southern summers they come from the south, while those from the north prevail during the winter; with the former the weather is clear and the sky generally cloudless, but the latter are attended with rain, mist, and fogs. These monsoons are circumscribed within narrow limits.

The south one is sometimes confounded with the southeast trades, from which it differs very materially in its direction, and, as I before remarked, half the year it is intermitted. The southern monsoon is a dry wind, and its daily duration is generally confined to five or six hours, from 11 A. M. till 4 P. M.; a calm then succeeds, and towards morning, in this season, the land wind is felt with almost the same certainty. The winter monsoon blows moderately from the north and northwest, has a high degree of moisture, and at times violent storms take place. Although the winds are the great agents in producing the changes in this climate, there are other causes which also exert their influence. As far as the temperature along the coast is concerned, its small variation may readily be ascribed to the south polar or Chili stream, which sweeps throughout its whole extent. At Valparaiso, in the latitude of 33° south, we found its water at 56° Fahr., and, from many observations I have had access to, it varies little from this temperature throughout the year. The monsoons are found to prevail as well in the interior as on the coast, and have the same characters; and to their influence in like manner it owes its variation of climate. During the summer months, the sky is almost cloudless throughout the day, and especially so at night, when it is calm and brilliant; no rain falls, and little dew. In the valley of the Maypo, they cultivate by irrigation; and, were it not for this, Chili would be an arid and barren waste. What seems remarkable, the dryness of the climate is observable in the highest ridges of the Andes, as well as in the valleys or plains. The lofty ridges in the interior, for the greater part of the year, have a distinct and well-defined outline, resulting from an absence of moisture; and, from a like cause, the character of the vegetation is thorny.

The rainy season throughout Chili, north of the Rio Maule, is in June and July, when it rains in torrents. I have no account of the quantity which falls; it lasts at times for a fortnight, raining violently and almost without cessation: the beds of rivers that were dry become

swollen, and the whole country is rendered impassable for a time. These rains take place when the northerly monsoon returns charged with the vapours from the tropics, which coming in contact with the cooler atmosphere surrounding the highlands and mountains of Chili, condensation takes place, and produces the violent rains during this season. But, as this cannot take place on the northern coast and its adjacent country, owing to the temperature not being low enough, rain is rarely if ever experienced there.

The variations which took place at the time of our visit will be seen on the diagram before referred to. Our observations show a barometric oscillation of ·530, which appears to be about the extreme range throughout the year; its mean standing we found to be 29·896 inches. The temperature of the air varied from 65° to 46°; mean temperature 55·2°. That part of Chili still inhabited by the Araucanians in the south, is said to possess a mild and equable climate: it is considered the most fertile, having an abundance of everything, and enjoying a happy mean between the extremes to which the other parts are subject. Sun's radiation, by means of twenty-eight observations, was 68·4°, shade 58·3°, difference 10·1°; greatest difference in sun 39°, the least 2°. During our stay, the weather was for the most part overcast both night and day; the observations were taken when it was clear.

VALPARAISO TO CALLAO. — In our passage from Valparaiso to Callao, at about one hundred and twenty miles from the coast, we passed beyond the influence of the northerly monsoons into the southwest wind, and then into the trades, in latitude 28° 30′, which is believed to be their southern limits at this season of the year. On several successive days the wind veered even to the northeast for a few hours; as we approached the coast of Peru, it became more southerly and moderate. The temperature of the air increased but 7°; that of the water, only 5°. It will be observed, by an inspection of the diagram on Plate VII., page 158, that when we were the farthest from the coast, the temperature of the water rose several degrees, proving satisfactorily that we were without the limits of the Chili current, and that on nearing the coast of Peru we again entered it.

The mean height of the barometer had increased ·087 in the 21° of latitude. Although the sky was much overcast, we had no rain: the degree of moisture was ·949.

CALLAO. — It was the middle of the month of June when we

arrived at Callao; we remained there until the middle of July, part of which time our observations were made at the Island of San Lorenzo, which forms the western side of the bay. This was the season of winter, the sun being to the north of the line, and the time of the year when the heavy mist (garua) prevails, which almost screens the heavens from view. This is variously accounted for. Throughout the year the wind blows almost constantly from the southward, although at different seasons it varies very much as to strength: during the spring and summer months, from November till May, it blows moderately without intermission, whilst in the autumn and winter it is, though generally stronger, often interrupted, when light airs succeed from the north; on their occurrence the "garua" is immediately formed, and towards evening a heavy deposition takes place, which leads to the conclusion, that the returning warm moist current from the north encountering the cooler ones from the south causes precipitation. The recurrence of these circumstances always produces the same effect. Whilst the south winds prevail continuously, the whole coast of Peru enjoys a clear atmosphere and fine weather. In winter the sun has seldom power enough until near midday to dissipate these mists, which renders the climate during the winter season damp and cold, prejudicial alike to comfort and health. The mean annual temperature at Lima is placed by the best authorities at from 60° to 85° Fahr. I am not aware that any recorded observations of the barometer have been made throughout the year, but the mean standing of the mercurial column during our stay was 29·983, and its greatest oscillation ·200: the maximum and minimum temperature was 56° to 82° Fahr.; mean temperature during our stay, 63·3°; mean water 59·8°, minimum 56°, maximum 63°; solar radiation 83·1° sun, air 73·6°, difference 9·7°; 35 observations. Photometer 93° and 19°; 8 observations: the degree of moisture ·922.

From the observations made during our visit, we found the vapour plain on this coast to be elevated above twelve hundred and twenty feet. Below this point vegetation is confined to the winter months, unless moisture is supplied by artificial means. Without the tropics, where the vapour plain exists, it protects vegetation below it, but within, the reverse seems to take place: in the first case, we ascend from luxuriant vegetation to barrenness; in the latter, from an arid, barren waste to some of the most productive and fertile portions of the globe. The low temperature of this part of Peru is to be ascribed more to the influence of the temperature of the ocean, than its proximity to the

Andes. The prevailing winds pass for a long distance over the sea, and serve to modify the heat of a tropical climate.

The small diagram (on Plate VIII., page 188) of the mean daily temperatures at Callao, will show their variations from each other and from that of the water of the bay.

CALLAO TO TAHITI. — This route was sailed over during the months of July and August, and between the parallels of 13° and 18° south latitude. The temperature of the air and water changed and the weather became fair when we had reached a distance of one hundred and twenty miles from the coast; the former from 63° to 76°, and the latter from 66° to 78°, until we entered the Paumotu Group. We carried the southeast trades until we were in latitude 17°, and had reached the longitude of 110° west, when they left us, and the wind changed to the west, southwest, and northwest. This interruption continued for several days, with an atmosphere loaded with vapours, an overcast sky, and the barometer standing ·100 higher: the diagram (Plate VIII., page 188) will exhibit these variations. The wind afterwards could not be termed the trade wind: though mostly from the eastward, it frequently veered to the southwest, from which quarter the upper stratum of clouds was passing rapidly: these continued until our arrival off Clermont de Tonnerre, the most eastern island of the Paumotu Group. From our observations, it appears that the limits of the trade winds towards the central part of the Pacific, do not extend the same distance from the equator that they do nearer the coasts. It will be recollected that but a month previous to our passing over this route, we had met with the southeast trades in the latitude of 28° 30′ south, near the coast of South America; now, at a distance of two thousand miles from the coast, we had lost them in latitude 18° south, and at the season of the year when they are supposed to extend to their farthest southern limit, showing a difference in the distance from the equator of 10° in latitude; and it will be hereafter seen that beyond the Society Islands it is contracted within still narrower limits, while on the western side of this ocean they have been found to extend to the latitude of 22° south: this gives their line of limit a convex curve towards the equator. The degree of moisture which we experienced varied from ·701 to ·984; mean ·873. Solar radiation, sun 95°, air 76·8°, difference 18·2°; greatest difference 41°, least 4°. The water throughout was about 4° warmer than the air.

PAUMOTU GROUP. — The Paumotu Group has two seasons, notwithstanding its very uniform temperature throughout the year, which may be divided into the stormy and fine: the former prevails from November till March, when the sun is vertical, and the temperature has its highest mean; the fine season is from April till October. During the former, violent gales from the west and southwest occur, though the winds blow generally from the northward and eastward, rarely south of the east point, and are accompanied with much rain. These gales, which are frequent, cause a great rise of the waters, which often submerge many of the low islands; on these, numerous evidences are seen of the destructive effects from the abrasion at these times, and I think sufficiently account for the dilapidation which is everywhere seen on the west side of the islands throughout the South Pacific. There is no time afforded for the growth of vegetation, between these storms, and often from their violence the debris or soil must be washed entirely away.

The southeast trades are prevalent in the fine season, with fair weather for most of the time, though they are subject to severe squalls, which last but a few hours. At the time we passed through this group, we found no ocean current to exist. The mean standing of the barometer was 29·964 inches; the mean temperature during August 79° 33′; the degree of moisture ·877: the temperature in January, 1841, when visited by the Porpoise, was 81·4°. Although the temperature was so high and without variation, the climate, judging from the healthiness of the natives, and their apparent longevity, is salubrious. The power of the sun's rays, by 94 observations, was 96° sun, 80·8° shade, difference 15·2°; greatest difference 35°, least 1°. The thermometers were exposed on a rack constructed for the purpose, and as free from the influence of reflecting surfaces as possible: the observations were made at corresponding hours each day, and as much as possible under the same circumstances.

TAHITI. — This island was visited by us in the months of September and October, 1839, and February, 1841. The climate of Tahiti is usually spoken of as delightful; but, according to the missionaries and residents, it is found to be very debilitating. The variation of the thermometer is between 60° and 85° Fahr. The mean temperature during our stay, in September and October, was 76·4°, in February, 82°. In the summer months (from November to March) the Tahitian Group is subject to the winds from the northward and westward, which

render the climate sultry and hot at that season. The climate may be divided into wet and dry periods: the former includes the summer months, the latter the winter. Although there is but little respite from the heat, the difference of the mean being only 6°, yet the setting in of the southeast trade winds brings fine weather, dissipates the vapours, and clears the atmosphere, and for a time produces an exhilarating effect, both during the day and at night, from the prevalence of a land-breeze which sets in soon after sunset, and causes the night to be cool and pleasant. No one who has not experienced it can estimate the pleasant sensation this wind produces, scented as it is with all the perfumes of this "queen of the ocean." The variations of the thermometer during our stay were only 7° for the air, and 2° for the water; the mean of the barometer 30·083 inches, higher than it stood in the Paumotu Group or at sea. The amount of rain which fell was 4·2 inches: I was not able to procure any data for the annual quantity, the missionaries who have laboured so long in this field never having attended to any of these interesting results in meteorology. The heat on the western side of the island is much more oppressive during the day than on the east, but less so at night, from a longer continuance and more certainty in the land-breeze coming down from the high mountains. The southeast side has almost constant showers throughout the year, particularly during the season of the trade winds. The degree of moisture obtained from our observations on the north side was ·800; the result on the southeast side would probably have been greater. Many plants succeed better on the southeast side of the islands; but from the habits of the natives, the north side being more thickly settled, we might infer that the latter is the most agreeable and salubrious. The vapour plain generally exists at two thousand feet, and it is seldom that the mountains are clear of clouds above this height. The solar radiation was 94·9° sun, 80·4° shade, difference 14·5°; mean of 27 observations.

While we were making the transit from Callao to Tahiti, the Relief, one of the squadron, was on her passage to the Hawaiian Islands from the same port: a view of the oscillations made by her instruments can be seen by comparing the diagram, Plate XXIV., Appendix, with that of the Vincennes, on Plate VIII. The track of the Relief was not parallel to that of the Vincennes, until she reached the same latitude north of the equator, where it appears that both barometers suffered a depression—that of the Relief the greatest; but although the times were somewhat different, yet about the same meridians they

show very nearly the same, both giving satisfactory evidence that as the centre of the great Pacific is reached a depression occurs; and I take this opportunity of calling attention to it, that from whatever direction this ocean is crossed, a like depression will be shown, as will be clearly pointed out by an inspection of the diagrams exhibiting the results of our observations.

TAHITI TO THE SAMOAN GROUP.—After stopping a few days at Eimeo, we passed to the northward and eastward of the Society Group, and thence to the westward, on the parallel of 15° south latitude. Even on this parallel the winds proved very light and variable from the westward, and we did not obtain the winds from the southward and eastward until we had reached the longitude of 160° west. The length of our passage was fifteen days. The change in temperature was +3·53° in the air and +2·89° in the water; the radiation of the sun, the thermometer similarly placed as in former experiments, 98·1°, 81·3°, difference 16·8°, the greatest and least difference being 29·5° and 6·5°; the decrease of the mercurial column when at sea was ·133. The wind from the west, as we found it to the eastward of the Paumotu Group, maintained a high column. The degree of moisture ·872.

SAMOAN GROUP.—We remained fifteen days in the harbour of Pago Pago, situated on the south side of the Island of Tutuilla, during which period we had an almost constant succession of strong winds from the southward and eastward, with light rain in showers. The harbour of Pago Pago is surrounded by high hills, and the Peak of Matafoa (the highest point of the island, 2,359 feet in altitude), which condensed the moisture. When the weather was clear, the vapour plain was seen about 300 feet below the peak, extending on all sides over the island. The difference of temperature on the top of Matafoa was found, when compared with that on the level of the sea, to be 10° less, which gave 230 feet in altitude for every degree of the thermometer: the observations were made at 4 o'clock P. M. The mean standing of the barometer at Tutuilla 30·033 inches; whole group 29·946, oscillation ·400. The mean temperature during our stay was 80° Fahr.; the range of the thermometer was 17°, from 74° to 91°. A register kept at this island gave the annual mean as 76°.

The trade winds, which come from the southeast, blow about one-half of the year, from April to September. In the months of January and February they come from the northward and westward. The proportion of clear weather to that which is cloudy and rainy, is about

equal. In fine weather, copious dews fall. The climate of Tutuilla is much modified by the overhanging clouds, which shield the harbour and its valleys from the powerful rays of the sun. The trade wind sets in about ten o'clock and continues till sunset. The nights are calm; at times a faint land-breeze is felt.

The rain which fell in eleven days of our stay at Pago Pago harbour amounted to 4·3 inches; the degree of moisture in clear weather ·871. The climate of the group is believed to be more moist than that of the Society Islands, and warmer; it was thought the season was earlier, many of the fruits being farther advanced, making full allowance for the difference in time. This we believe may be owing to the extensive area of ocean (equal to 3,600,000 square miles) lying a few degrees of latitude to the north of this group, the temperature of which is several degrees elevated above that of the sea surrounding the Tahitian Group. The extent and situation of this area will be seen on the map which faces the title-page.

The climate of this group may be classed as variable; for one situated within the tropics, it has a great deal of bad weather throughout the year, and during the summer months is subjected almost annually to violent hurricanes. In the winter, from April to November, the weather is more settled, the winds more moderate, and calms often prevail. This group was visited by us in October, 1839, and again in January and February, 1841, which enabled me to obtain more accurate information of its climate; this, however, has particular reference to the island of Upolu, the central one of the group, and to the harbour of Apia, on its north side. The map of Upolu (Hydrography, Vol. I.) will give a correct idea of its size and topography. Apia is situated, with respect to the trade winds, on the lee, or north side. The mean temperature during our first visit, October and November, 1839, was, air 80·55°, water 82·91°; during the second visit, in February, the air 79·94°, water 82·61°. The temperature on the south side of the island is a degree or two lower. The variation of the temperature was from 72° to 98°; that of the water 6°; from 80° to 86°. From the register kept by the Rev. Mr. Mills, the missionary at Apia, of which I was permitted to take a copy, the mean temperature for the year 1838 was 79°. The mean solar radiation, sun 103·6°, shade 92°, difference 11·6°; greatest difference 26°, least 1·5°.

To the kindness of William C. Cunningham, Esq., H. B. M. Vice-Consul of Apia, as well as Mr. Lundy, of Tutuilla, I am indebted for

information relative to a violent hurricane which passed over this group on the 17th December, 1840, shortly before the arrival of the Peacock on her second visit, in 1841. The following are the material facts, viz.:

At Apia, on the 12th, light winds prevailed from the southeast, the upper or cirrus stratum of clouds coming from the southwest. The wind continued to increase until the 16th; at midnight it changed to a heavy squall from the northeast. At 2 A. M., on the 17th, the wind was violent from the southeast, with a copious fall of rain; at 2h. 30m., wind from south-southeast in heavy gusts; at 8 A. M., a rapid shift to southwest; afterwards the gale gradually moderated, with the wind from the same quarter.

At Tutuilla the storm began at daylight on the 17th, increasing till noon. Wind east-northeast. Half an hour after noon there was a lull of twenty minutes, and then the wind shifted suddenly round to the southward and westward, and blew a heavy gale, which continued till midnight: the morning of the 18th was clear.

At both places the gale was most violent just after the change, when houses and trees were prostrated, and great destruction caused to a considerable portion of both islands.

The islands of Upolu and Tutuilla lie west-northwest and east-southeast. The eastern end of Upolu and the western end of Tutuilla were the parts that suffered most severely. Over the town of Lione, on the western end of the latter, the centre of the storm seems to have passed; it swept over it and one or two other villages in its track, levelling all the buildings, tearing up the bread-fruit and cocoa-nut trees, and prostrating a large area of forest trees. This gale, estimating from the time of its sudden changes, was about four hours in passing from Upolu to Tutuilla, a distance of sixty miles; consequently its progress was about fifteen miles an hour, in a northwest and southeast direction, having been carried onward by the northwest monsoon, which prevailed at that season of the year. The gale was felt at Savaii, the westernmost, and also, from the reports of the natives, at Manua, the easternmost island of the group. They could give no other facts. The length of the whole group is three hundred miles, which would give the diameter of the storm about two hundred and fifty miles. It is to be regretted that no good instruments were in the possession of these intelligent gentlemen, but such as they had were observed. A barometer in the possession of Mr. Williams, the American Consul, which usually stood at 28 inches, at Apia, fell as

low as 24 inches; the thermometer at 6 A. M. of the 17th stood at 88°, being nearly 8° above the mean standing of the instrument at that season of the year.

In 1849, December 26th, they experienced a severe storm, which continued for two successive days: this storm was not so violent in regard to the force of the wind, but the sea was very destructive, rising high, and it is remarked that islets were raised on the reef on the north side of Upolu several feet above high water mark: the wind blew from the east, and came round to the north and northwest. This gale appears to have been of great extent, for it was felt at both the Society and Hervey Groups.

SAMOA GROUP TO SYDNEY, NEW SOUTH WALES.—We had very fine weather on this passage, until we passed outside of the southeast trades, in latitude 22° south, when the wind changed to the northward and westward, then to southwest, and finally to the northeast and north, as we approached the coast of New South Wales.

After we reached the longitude of 175° east, and the latitude of 17° south, the temperature of air and water fell rapidly, equalling one degree of temperature for each degree of latitude, till we reached the parallel of 33° south, and 160° east longitude. The barometer in this passage rose ·159; temperature of the air fell 12·33°, and the water 13·75°; mean degree of moisture ·833.

Sydney lies upon the same parallel of latitude with Valparaiso, yet differs 10° in the mean annual temperature. The cause is obvious. The ocean which bounds both coasts has also this same difference: one is washed by a tropical current, while that of the other has a polar stream flowing along its shores.

On other coasts where the same causes exist, like results are found: the eastern coast of South America differs from the western to nearly the same amount, and the same might be shown of others, did the space allotted for these remarks permit. In comparing temperatures on the same parallel in the northern and southern hemisphere, some interesting results are obtained. The island of Raratonga, one of the Hervey Group, latitude 21° 14′ south, longitude 160° west, has a mean annual temperature of 75·61°. The lowest temperature was 60°, in July and August, the highest 89°, in December, January, and February, differing 29°. Oahu, one of the Hawaiian Group, lies in latitude 21° 18′ north, longitude 158° west; the mean annual temperature 75·8°: the highest degree of heat in June, for 12 years, has been 90°; lowest 53° in January; difference 37°. These are both high islands,

situated in mid ocean, and within the range of the trade winds of both hemispheres, which blow at Oahu five-sixths of the year, while at Raratonga they are constantly intermitted, and seldom continue half the year: they exert less influence upon the climate in south than in north latitude.

The average daily range of temperature at Oahu is 12°, whereas at Raratonga it is but 5°; the temperature of the water at the Hawaiian Group is 81°, while that at the Hervey Group is 75°: thus we have two islands nearly similarly situated in geographical position, which we find to differ but 0·19° in their mean annual temperature, 7° in their average daily range, and 8° in their greatest difference. I regret that there has not been any barometric observations made at Raratonga, with which to compare the pressure at Oahu. The above results were obtained from observations taken during the years 1837 and '38, at both places, and are confined to the day observations, viz., 6 A.M., noon, and 6 P.M., at Raratonga, and 7 A.M., 2 P.M., and 10 P.M., at Oahu.

SYDNEY, NEW SOUTH WALES.—Our stay at Sydney was from the latter part of November till the end of December, 1839, and the month of March, 1840. The weather, during the time of our observations, was cloudy, with rain, the wind generally from the eastward. The mean temperature for the month of December, 1839, was 66·4°, the extreme fluctuation 27°, and the extreme daily variation 11°. The mean standing of the barometer is 29·940 inches, and its oscillation 1·810 inch; by the records of the Colony, the mean annual temperature is 65·70°. The seasons are considered but two, summer and winter, the former from October to February, the latter from May to September: at Sydney these are marked by the prevalence of the winds: during the former, the easterly winds blow, while during the latter, they come from the southwest; in March and April, as well as September and October, the winds are variable. The thermometer seldom falls below 40°, or ranges above 78° during the winter; in summer its range is from 54° to 91°: these temperatures only apply to the east coast and to the day hours; therefore, although we have the greatest heat, yet it cannot be considered the lowest temperature: ice is seldom seen at Sydney. More recent observations, kept at the South Head, at Port Jackson, make the temperature a little different; but even these latter observations do not include the most important minimum hour of the night, and are, therefore, still only approximate. At Port Philip, on the south coast, the thermometer in the winter descends to 35°, and rises to 65°: in summer its

range is from 50° to 98°. The winds show a reversed order at these two places: while it blows from the eastward on the east coast during the summer season, it is blowing from southwest on the south coast; and in the winter this is again reversed to southwest at the former place, while at the latter easterly winds are experienced; the cause of this state of things is to be looked for in the extensive arid wastes which exist in the centre of New Holland, and will account for some of the remarkable phenomena which take place in the climate; perhaps there is none more notable than the excessive droughts which frequently prevail and continue for months; in other years great floods occur. In the Narrative, Vol. II., p. 168, 4to. edition, I have spoken of the exploration of the country, and the peculiar condition in which it was found by the exploring parties, and to which I would refer for information upon the subject. The quantity of rain which falls is very variable: in 1840, 35·25 inches fell; in 1841, 45 inches; making a fourth more. The rainy season is in April and May: the greatest quantity which has been known to fall in any one day, was 20·12 inches.

The degree of moisture, by our observations, was ·748. I have before remarked that there is a great difference in the climate of New South Wales, and that every locality has in a measure its own. It is difficult to account for the anomalies that occur in the seasons. The rains that prevail on the eastern coast, are generally brought by the west and southwest winds from the interior, as all the meteorological registers, kept at Port Jackson and Macquarie, prove: these are land winds; yet, at an opposite season, we find these same winds causing the blight that is so much dreaded by the agriculturist, from the want of moisture. In March, the barometer stood at 29·969 in., while the temperature of the air and water had risen from 3° to 4° higher than in December.

ANTARCTIC CRUISE.—This cruise was made during the summer season of the southern hemisphere. The diagram on Plate XI., p. 302, gives the track of the Vincennes, the oscillation of the barometer, and the variations of the thermometer, the mean daily depression of the barometer, or the diminished pressure of the atmosphere within and along the Antarctic continent: the mean pressure was determined to be 29·040 in., its extreme oscillation 1·160 in. The temperature of the air, with but few exceptions, followed that of the water: these exceptions only took place when near large bodies of ice, and which are readily distinguishable on an inspection of the diagram. During a period of 42 days in midsummer, the tempe-

rature was but seldom found above the freezing point of water; the lowest temperature was 22°. From the low temperature of both water and air, it will be perceived that when ice is once formed, it can seldom be melted while it remains in these high latitudes: this will account for the large masses which are almost constantly accumulating from the depositions in the form of snow, sleet, or fog.

The winds which prevailed were from the northwest and southwest, until we had passed to the westward of the meridian of 160° east, when we had a change from the eastward, with better weather. The mean degree of moisture was ·890. The photometer was exposed for the 24 hours for several days: it fell to 19° for the night hours, and rose to 93° in the day: from this it is evident that the intensity of light in the southern hemisphere is not as great as it is represented to be in the northern.

The mean solar radiation was 4·7°; the greatest difference between the sun and shade 9°; least 1°. A thermometer placed on the black hammock-cloth in the sun rose only to 36°, that in the shade being 30°. This shows a remarkable difference in the power of the sun's rays between the southern and northern hemispheres. Captain Scoresby and other Arctic navigators state, that the temperature in the sun frequently rose to that of melting pitch, while it was below the freezing point in the shade.

It will be seen, on referring to our first cruise to the south, represented on Plate VI., page 138, in the longitude of Cape Horn, that the same results were had: the barometric column decreased in altitude as we reached the higher latitudes, and the thermometers in the air followed that of the water, until masses of ice intervened. The degree of moisture on that cruise was ·935. From an examination of the temperature of the southern hemisphere, I have become satisfied that it is more equable than the northern; of this we have had many proofs, and the observations I have had access to fully corroborate it: the fact of the thermometer having varied but a few degrees during the summer months, the power of the sun's rays not being so great, and the temperature not descending so low during winter, together with a much higher mean annual temperature, and a much less range, all tend to satisfy me that such is the case.

In the Narrative, I have mentioned several gales which occurred during this southern cruise: the progress of only one I have been able to trace satisfactorily, in consequence of the four vessels of the squadron having been separated some distance from each other. I have refe-

rence to the gale of the 28th and 29th January, 1840. The position of the squadron was as follows, viz.:

Porpoise,	latitude	64° 46′		longitude	137° 16′	east.
Vincennes,	"	65 45		"	140	"
Flying-Fish,	"	65 15		"	150 16	"
Peacock,	"	61 20		"	154 09	"

The Porpoise encountered the gale first; it began with the wind from the eastward, and veered during its continuance to the southwest by the south; its duration was eighteen hours. The Vincennes next experienced it, the storm undergoing the same changes as those of the Porpoise; duration eleven hours. The Flying-Fish we find to have encountered it next, the storm coming from the northeast and veering to the southward; duration twelve hours. The Peacock was the last to encounter it, the storm beginning from the northwest, and veering by west to the southwest, the most violent part of it after its change; duration was twenty-four hours.

The distance of the Porpoise from the Vincennes was about 60 miles, which it passed over in 3 hours; between the Vincennes and Flying-Fish 260 miles, which it traversed in 13 hours; and the distance between the Vincennes and Peacock, about 400 miles,—this space was passed over in 21 hours, which gives its rate of progress about 20 miles an hour, and its track from west-southwest to east-northeast. The centre of the storm must have passed between the vessels; the Vincennes, Porpoise, and Flying-Fish being to the south, while the Peacock was to the north: this is known by the wind having veered in opposite directions during the changes that took place while it continued.

SYDNEY TO NEW ZEALAND.—This passage was made in 13 days, in the month of March. By the diagram, Plate XII., page 330, it will be perceived that our route was nearly on the parallel of Sydney, and that the temperature of both air and water was several degrees higher than it had been in a lower latitude in the month of November, illustrating the influence of tropical currents between New Holland and New Zealand during the summer months. The winds, after leaving the coast, were quite variable, seldom remaining over a few hours stationary. As we approached New Zealand, they were more constant from the southwest; the temperature of the air varied between 64·4° and 71·6°, that of the water between 68° and 72·5°; the oscillations of the barometer were ·420 in.; the rise of the mercurial column taking place with northerly winds, whilst it was depressed with southerly

ones. The degree of moisture ·816. We had generally a cloudy and overcast sky, with very moderate winds.

NEW ZEALAND.—The observations at Bay of Islands, New Zealand, were during the months of February and March, 1840. The variations of the mean daily temperature are shown on the diagram, Plate XII., page 330. The climate of New Zealand, although changeable, is more equable than that of New Holland. The mean temperature was 61·3°, the maximum 73°, minimum 52°. The prevailing winds are from the southeast and west; the former are attended with rain. May and June are the rainy months. There is usually a difference of 20° between the temperature of the day and night. The degree of moisture ·772. The mean standing of the barometer was found to be 30·004 inches, and the temperature of the water 66·37°. The climate of New Zealand is thought to be better adapted to the European constitution than that of New Holland. Droughts are never felt in any excess. These islands are in the track of the severe hurricanes, which occasionally pass over them, particularly the northern part near the Bay of Islands. One of these occurred during our stay; it happened on the 29th of February and 1st of March, 1840. For the development of this gale I am indebted to the inquiries of several gentlemen of the Expedition, who were at the Bay of Islands when it occurred, and to the kindness of the masters of the vessels who were caught in it. We have five positions where observations were made, three to the north, and two to the south of its track, viz.: at the Bay of Islands, on board the Brigs Victoria and Camden, H. B. M. Ship Herald, lying in the River Thames, and the Flying-Fish, one of our squadron; their relative position will be better pointed out by their latitudes and longitudes, which were as follows, viz.:

Camden, ...	31° S.	174° 07′ E.
Victoria, ...	33° 30′ S.	171° 50′ E.
Bay of Islands, ...	35° 17′ S.	174° 07′ E.
H. B. M. Ship Herald, . . .	36° 49′ S.	174° 43′ E.
Flying-Fish, ...	40° 30′ S.	178° 30′ E.

From these positions we ascertain that the storm had a diameter of five hundred miles, from the latitude of 31° to 40° 30′ south. We also observe that its track was south-southwest, veering as it progressed, to southwest, and that its velocity was equal to twenty miles per hour. Its centre passed just to the southward of the Bay of Islands, at which place there was a calm of ten minutes, when the storm recommenced with equal violence from the opposite quarter;

the trees that were prostrated at the Bay of Islands were found lying with their tops to the northward. The gale came on with the wind from the southward and eastward at all the stations,—this was nearly at right angles to its actual line of movement: the veering of the gale was from left to right. It was one of the most destructive that had occurred at New Zealand, the water rising to a great height, and overflowing a part of the island which had before been thought beyond the reach of the sea. The lowest standing of the barometer on board H. B. M. Ship Herald was 28·75 inches, when the gale was most violent. The change of wind took place at 2 A.M. of the 1st of March, and on board the Flying-Fish it was at its height at 3 A.M. Throughout the gale the thermometer did not descend below 66° Fahrenheit, the temperature of the surrounding sea.

On our passage to Tonga, one of the Friendly Islands, we did not enter the trades until we reached the latitude of 24° 26′ south, when they blew from the east. The barometric column again decreased ·139 in., while the temperature of the air increased 13·3°, and the water 9·7°.

Tongataboo comes under the class of low coral islands, but its climate is dissimilar; it is more humid, and the heat more oppressive. The daily transitions from heat to cold are much complained of, though we found but 8° difference in the temperature. The dews are remarkably heavy, which may account for the feeling of cold at night; they are said to render the climate unhealthful. The mean temperature of the air, during our stay of ten days, in the month of April, was 79·05°, that of the water 79·28°; the barometer stood at 29·868 in.; the degree of moisture ·893.

Hurricanes are frequent in this group. The months from November to March are those in which they occur. According to the accounts given me, these begin with the wind at northwest, go round to the eastward, and end at the southeast. Sudden changes during the height of the gale are experienced, and trees are prostrated with their tops in all directions. It appears that the progress of these storms is from the northeast to the southwest, corresponding to what we found to be the case at New Zealand, and nearly at right angles to that before described at the Samoan Islands. The courses of these gales having been well ascertained, we must conclude that the paths of these storms are deflected, somewhat like those of our own hemisphere, only in a contrary direction, moving from the northwest to the southeast in the lower latitudes, and thence passing to the higher latitudes by a course towards the southwest. The same gale at the

Friendly Islands is seldom felt at the north and south islands, but the islands lying between the two rarely escape: this is another proof of the direction in which these storms move, and the fact that we have no accounts of the same gale having been felt before or after at the Feejee Islands, lying west and northwest of the Group, would seem to confirm the evidence that the directions across the Friendly Group are from the northeast to the southwest.

FEEJEE ISLANDS.—We were but two days making the Feejee Group, with the trade wind from nearly east, and an overcast sky. The islands lie nearly west of the former, distant about 300 miles. The position we occupied, was at the island of Ovolau, where we remained for 48 days, during the months of May and June, the greater part of which time the observations were made at the Observatory, on the eastern side of the island. The island of Ovolau rises very precipitately to the height of 2060 feet. During our stay, the weather was fine and the winds moderate and variable, prevailing from the eastward for most of the time. The temperature of the air and water varied, the former from 60° to 94°, and the latter from 78·3° to 81°, the mean temperature of the air 77·81°, and the mean standing of the barometer 29·997 inches; the greatest oscillation of the barometric column ·420 in: the rise of the column is produced by southeast winds, while it falls with those from the north and west. The weather is generally clear, except when the southeast winds blow strong, when the atmosphere becomes hazy. The height of the vapour plain was found to be 1900 feet above the level of the sea. It will be perceived that the range of the thermometer is greater than at Tonga. The summer months, from October to March, are considered the worst period of the year, when the northerly and westerly winds are experienced, and at times severe storms pass over the islands. The winter months, from May till September, are considered the finest; then the winds prevail more constantly from the southeast; they blow at this time much fresher. The climate has a general resemblance to that of Tahiti, and the mean annual temperature very nearly corresponds. At the Feejee Islands it has a greater range. During our stay in the Group, stormy weather occurred but once, when the thermometer fell to 70°, the wind from the southeast; the barometer rose at this time ·145 in. above its mean standing. This effect upon the barometer excited my attention, as I had frequently observed it before, when in the vicinity of high land, and on the side of it which is exposed to the southeast trades. A sufficient cause for it may be found in the obstruction the high islands may cause to the aerial current, thus

creating a greater pressure of the atmosphere. I have before remarked that the climate on the east and west sides of the large islands is different; a fact we had an opportunity of proving while engaged in this Group. At the same hours we found the mean difference of the temperature to be 2° less on the lee side than it was on the weather side, but the greatest difference was 4·23°. This was doubtless the effect of condensation taking place on the weather side, while evaporation was going on rapidly on the lee side. The standing of the barometer was also found to be ·126 in. higher on the weather side. The diagrams on Plate XIII., page 402, exhibit the mean daily variation of the thermometer and barometer, that at Ovolau while we were stationary, and the other while we were moving about from port to port of the northern large island. The variation of the temperature may be attributed to the advance of the season rather than to any change of locality. During our stay, the lowest temperature shown was 68°, and this in mid-winter. February and March are considered the most stormy months, when heavy gales are frequent. Those that have been experienced, begin at the northeast and shift round to the north and northwest, from which latter quarter they blow with most violence, and clear off with the wind from the west and southwest.

I endeavoured to trace the gale which happened at these islands on the 22d and 23d February, in some connexion with those which occurred at New Zealand, but without success. Strong winds prevailed at Tonga, but they had no gale there. The same gale, however, was experienced off Erromango; the time of its occurrence being the 28th, 29th, and 1st March; the position was between 500 and 600 miles to the west-by-south of the Feejee Group. The wind was from the southeast to south-southeast; this would lead to the belief that the storm had passed to the northward and westward, travelling to the westward.

The mean solar radiation at the Feejee Group was found to be, sun 97°, shade, 72°, difference, 25°; maximum, 110°, minimum 82°.

FEEJEE GROUP TO HAWAIIAN ISLANDS.—In this passage we made a course about north-northeast, from 17° south to 21° north latitude, traversing the central part of the Pacific, on a line 2500 miles in extent. On Plate XIII., page 402, the track is shown, and the variations of the instruments. The depression which took place in the barometer, cannot fail to be remarked on inspecting this diagram; and in order to show that this was not only the case on one passage, I have given

on the same plate a diagram of the Relief's track, the year before, and refer to the Peacock's track and observations on Plate XXIII., Appendix, the year after, which were nearly over the same course; and, the depression of their barometers being reduced to the same standard, they very nearly correspond. The diagrams also point out the changes that took place in the temperature of the air and water, and show that they attain their maximum between 5° and 7° south latitude, in these longitudes. It also will be seen that the thermometer indicates the same temperature in the latitude of 21° north, that it has in 15° south latitude. In passing through the belt of ocean comprised within the 10th degree of latitude on either side of the equator, we found the mean degree of moisture to be ·868, and the solar radiation 18°. We lost the southeast trades in 7° south latitude; they afterwards continued variable, lasting but a few hours from any one direction. When in latitude 3° south, we had a heavy fall of rain, 5·2 inches, the temperature of which was 62°, air 70°; the upper stratum of clouds, after it ceased, was seen moving from the east-northeast.

The variable winds accompanied us until we reached the latitude of 8° north, when we met the northeast trades. During this passage of 43 days, the maximum temperature was 88°, minimum 73°; the greatest oscillation of the barometer ·280 in.

The other vessels of the squadron made the passage at the same time, and all their observations tend to confirm those of the Vincennes.

HAWAIIAN ISLANDS.—Our observations at these islands continued through a space of six months, from September to April, 1840–41. The first two months of this time they were made on the Island of Oahu, and the last three on Hawaii, the former on the leeward and the latter on the windward side. These will be found projected in the diagrams, on Plate XIV., page 440. The mean temperature in the first period at Honolulu (Oahu), was 78·01°, varying from 70° to 89°, and during the last at Hilo (Hawaii), 70·09°, and varying from 57° to 82°. The oscillations of the barometer are greater than in south latitude, and more fluctuating, being ·540 in. The mean standing of the barometer was 29·973 in. The column generally rises with the northwest winds, and is depressed by the northeast. The tropical hours for 47 days (hourly observations) correspond to 3 h. 36 m. A. M., 9 h. 36 m. A. M., 3 h. 12 m. P. M., 9 h. 30 m. P. M. The mean annual temperature, by the observations kept for several years at Honolulu, is 75·8°, that of a sunken thermometer, six and a half feet deep, gave 82·5°.* The diurnal vari-

* I am at a loss to account for this apparent discrepancy between what the buried thermometer gives, and the mean annual temperature for several years; the thermometer

ation is about 12° Fahrenheit, and its extreme annual range 37°. The solar radiation 21·4°. The climate of these islands varies according to the elevation; in speaking of the climate, I allude to that part on the coast, nearly on the sea level. The moisture depends upon the situation, whether high or low, or on the leeward or windward sides of the island; the leeward side is free from rain, while the windward side has an almost constant succession of showers; these continue during the prevalence of the northeast trade winds, which last for nine months of the year, from March till December. In the winter months they are subject to calms, and occasionally to southwest gales; these do not appear to partake of the whirlwind character, but are accompanied by a deluge of rain.

The trade winds blow with great strength during a part of the day, but the nights are calm and beautiful. In the summer months heavy dews prevail, but they are not considered unhealthful. The inhabitants generally prefer to reside on the leeward side of the islands. The quantity of rain which falls annually is variable; at Honolulu, in 1837, it was 21·1 in., and in 1838, 46·8 inches.

During our stay at the island of Hawaii, we ascended to the top of Mauna Loa, 13,440 feet above the level of the sea, and 60 miles west of Hilo. In order to give some idea of the position which we occupied, and where the phenomena were observed, the following description of the shape of the island of Hawaii seems necessary. It is of triangular form, with its longest side to the west, and embraces about 3500 square miles; its whole surface is occupied by three mountains. Mauna Loa is nearly in the centre, and is a huge flattened dome, rising from a base 60 miles in diameter; Mauna Kea, 27 miles to the north, 14,000 feet elevation, and to the west; Mauna Hualalai, at a distance of 24 miles, 10,000 feet high. Between the three mountains lies a vast plain, strewed with lava and ashes, which the mountains have vomited forth. All the surface above an elevation of 6,000 feet, is destitute of wood. The top of Mauna Loa has a crater one mile in diameter, and 760 feet deep: our position was within 80 feet of the edge. The simultaneous observations were continued through a period of 9 days; they are projected on the diagram, Plate XV., page 490. The oscillations of the barometric column, it will be seen, are nearly coincident, but in the thermometers we find that the range is much greater at the summit than below, and that even the maximum and minimum hours

was placed in a bottle of water, which was buried in black scoriæ, and remained there fifteen days.

do not correspond: while the one above passed through a range of 27°, the one below changed but 13°.

The observations made with a view of determining the height in feet due to each degree of temperature during our stay at the summit and at the station we occupied on the mountain side, are given in the following table; these results, it will be seen, vary in consequence of the range of temperature being so much greater at the upper stations than at the lower, which must affect them according to the hour in which the observations are made. If the means are to be taken at the maximum hours, the result will be too great, and if at the minimum hours, too little, and it also appears that the localities have their influence.

Hours.	Temperature.		Difference.	Height in feet.
	Sea level.	Summit.		
9 A. M.	66·1°	31·2°	34·9°	380
Noon.	70·6	37·	31·6	425
3 P. M.	71·	37·7	33·3	403
6 P. M.	66·9	25·6	43·3	310
	Recruiting	station 9000	feet.	
9 A. M.	66·28	45·7	19·5	461
Noon.	70·1	51·3	18·8	478
3 P. M.	70·8	50·3	20·5	439
6 P. M.	69·28	42·	27·28	329
	Kilauea	crater 4000	feet.	
3 P. M.	77·7	77·7		
6 P. M.	74·	59·5	16·5	242
10 P. M.	69·	43·	26·	154
Midnight.	63·	45·	18·	222
3 A. M.	77·	43·	34·	117
6 A. M.	75·	44·	31·	129
9 A. M.	70·5	65·5	10·	400
Noon.	77·	74·	3·	1333

On Haleakala (Maui), at 10,143 feet elevation, observations made at 2 P. M., gave 338 feet; at a station, Drayton's Cave, 8,600 feet high, we get 318 feet at the same hour. The height due to a decrease of one degree in the boiling point of water, at the above places was 537 to 550 feet. Mean solar radiation, sun, 110°, shade 82°, difference 28°.

The following table exhibits corresponding observations made with the photometer and ætherioscope of Leslie, from the 4th to the 9th January, at the summit station.

(13,440 feet above the level of the sea.)

1841.	Barom.	Thermometers.			Black Bulb.	Phot.	Æth.	Wind.		Remarks.
		Shade.	Sun.	Diff.				Direction.	Force.	
Jan. 4.										
1 P. M.		40°	75°	35°	54°	81°	94°	N. E.	4	Clear and chilly.
2 "		40	87	47	56	82	90	"	3	Clear and pleasant.
3 "		49	76	27	51	34		"		Clear, calm, and pleasant.
4 "		35			37	34	44			Partially cloudy.
5 "	18·412	28			30		20			Calm and pleasant.
6 "		25			23		20			" "
7 "		23			22		22			" "
8 "		21			22		24			" "
9 "	18·422	20			22		21			" "
10 "		21			21		18			" "
11 "		20			21		14	Nd. and Ed.	1	Light airs and pleasant.
12 "		19			21		·5			" "
Mean.		28·4			31·6					
Jan. 5.										
1 A. M.		20°			21°	10°	13·5°	Ed.	1	Light airs and cloudy.
2 "		20			21		13			" "
3 "	18·406	19			20		13			" "
4 "		19			20		13			" "
5 "		19			20		13			" "
6 "		19			20		13·5			" "
7 "		19			20		13			" "
8 "		20			30	30	22	bbl.	1	Hazy.
9 "	18·406	40	44°	4°	54	43	89			"
10 "		46	59·5	13·5	62	56	96			Clear, calm, and pleasant.
11 "		46	63	17	59	59	84			" " "
12 "		48	76	28	68	53	91	N. E.	1	Hazy.
1 P. M.		45	50	5	54	49	56	N. E.		Clouds flying over.
2 "		40	47	7	51	46·5	47	Nd. and Ed.		Cloudy.
3 "	18·400	36	38	2	39	11	16	N. E. by E.	4	"
4 "		33·5			34		8	Nd. and Ed.	4	Slight rain.
5 "		28			28		3			" "
6 "		26			28		18			" "
7 "		25·5			20		16			Calm and cloudy.
8 "		24			26		16			" "
9 "	18·400	24			26		16	"	4	Cloudy.
10 "		23			25		14			"
11 "		29			25		14			Calm and cloudy.
12 "		23			25		12			" "
Mean.		28·9			32·4					
Jan. 6.										
1 A. M.		25°			27°		12°			" "
2 "		24			26		14			
3 "	18·384	26			30		12·5	Ed.	1	Cloudy.
4 "										
5 "		30			30		21			"
6 "		28			29	5°	14			"
7 "		28			31	10	30			"
8 "		30			34	5	23			"
9 "	18·416	35	48°	13°	52	33	74			Calm and hazy.
10 "		40	52	12	58	56	81	Sd. and Ed.	4	Pleasant and clear.
11 "		44	58	14	62	58	85			Calm and pleasant.
12 "		44	60	16	58	65	81			Calm and hazy.
1 P. M.		45	61	16	65	80	81			" "
2 "		42	52	10	58	49	52			" "
3 "	18·422	40	48	8	50	26	70			Cloudy.
4 "		36			38	3	20			"
5 "		32			32		22	Ed.	1	
6 "		28			30		12			Well defined circle round
7 "		28			30		12			the moon visible.
8 "		27			27·5		12			
9 "	18·422	20			28		16			
10 "		26			28		12	"	1	Hazy.
11 "		25			27		10			"
12 "		25			26		10			"
Mean.		31·9			38·1					

(13,440 feet above the level of the sea.)

1841.	Barom.	Thermometers.			Black Bulb.	Phot.	Æth.	Wind.		Remarks.
		Shade.	Sun.	Diff.				Direction.	Force.	
Jan. 7.										
1 A. M.		24°			27°		10°	bbb.	1	Cloudy.
2 "		24			27		14			"
3 "	18·410	22			24		16			"
4 "		22			24		18			"
5 "		23			25		14			"
6 "		24			26		11			Calm and hazy.
7 "		24			28		10			" "
8 "		28			30		11			" "
9 "	18·440	29	31°	2°	31		16	"	1	Cloudy.
10 "		31	38	7	40	18°	10			"
11 "		34	38	4	40	15	10			"
12 "		37	40	3	42	24	14			Calm and cloudy.
1 P. M.		38	40	2	44	24	42			" "
2 "		39	44	5	44	24	43			" "
3 "	18·442	35	37	2	38	10	28	bbl.		Cloudy.
4 "		22			34		5			"
5 "		31			31		14			Calm and cloudy.
6 "		29			30		12			
7 "		28			29		10			
8 "		28			29		4	Sd.	4	Light snow.
9 "	18·432	26			28		4			
10 "		26			26					
11 "		26			26					
12 "		24			26					
Mean.		28·1			31·2					
Jan. 8.										
1 A. M.		24°			24°			bbb.	1	Cloudy.
2 "		24			26					
3 "	18·378	23			26					
4 "		24			25					
5 "		25			28					
6 "		24			26			blb.	1	Cloudy.
7 "		24			25					"
8 "		38			39	79°	26°			"
9 "	18·326	31			40	07	40	Sd.	5	"
10 "		47			48	86	70			Partially clear.
11 "		48			42	71	36			Cloudy.
12 "		34			48	64	16	"	5	" unpleasant.
1 P. M.		32			32		14			"
2 "		26			27			Sd. and E.	5	Squalls of snow.
3 "	18·378	27			28					
4 "		26			27					
5 "								S. W.	7	Hard gale.
6 "		25			26					" "
7 "										
8 "								"	8	" "
9 "	18·378	25			20			"		
10 "		25			26			"		
11 "								S. by W.	9	" "
12 "		25			26			"		" "
Mean.		28·8			30·7					
Jan. 9.										
1 A. M.		24°			26°					Gale.
2 "								Sd. and Wd.	8	"
3 "	18·388	24								"
4 "		23								"
5 "		23					3°		5	Clouds flying fast.
6 "		23					3			" " "
7 "		23					17			Clear and cold.
8 "		23				37°	80			" "
9 "	18·366	23	39°	16°		41	100			Calm and clear.
10 "		23	47	24		78	100	Sd. and Ed.	1	Pleasant and clear.
11 "		23	47	24		79½	100			" "
12 "		23	48	25		87	80			" "
Mean.		23·1								

On the mountain, it was frequently impossible to obtain the dew point with either of the hygrometers of Daniel or Pouillet; the evaporation was very small and slow; the snow continued almost unchanged, even in strong sunshine. The vapour plain, or the height at which the clouds usually remained, was about 5000 feet above the sea; the horizon above this was ill defined, the sea and sky being blended together by a blue haze; within the regions of clouds echoes were rife. During the whole period of our stay, we saw nothing of the blackness of the heavens which is spoken of by travellers; on the contrary, it appeared to us of a beautiful blue. One of the most striking of the phenomena was the shadow of the mountain thrown on the eastern sky, as an immense dome, of a light amethyst tint on its outline, and gradually deepening to a dark purple towards the centre.

When above the vapour plain, electricity was readily developed; at times the feeling was that of being insulated and charged from an electrical machine; the gold-leaf electrometer showed but little change, except on two occasions, when it appeared greatly excited.

The quantity of snow which fell while we were at the summit of the mountain, was about 18 inches; at the recruiting station, altitude 9000 feet, there was rain. The wind, for the most of our stay, was from the southwest, while it was blowing from the north and northeast at Hilo. The greatest velocity of the clouds during the southwest gales was found to be 47 miles an hour. All the gales which we experienced (seven in number), occurred at night, being most violent between the hours of 11 P. M. and 4 A. M., and but one of these was felt at Honolulu, while at Hilo they did not experience any gale. The clouds were seldom seen above the height of 8000 feet, except during the stormy weather. The temperature of the sea around the islands is 79·5°.

HAWAIIAN ISLANDS TO COLUMBIA RIVER.—Our route to and from the Northwest Coast, is projected on diagram, Plate XVI., page 516. Both passages were made in the usual track which sailing vessels are compelled to take. Twenty-one days in April were occupied in the first, and twelve days in November in the latter. After leaving the Hawaiian Islands we lost the northeast trades in 24° north latitude; calms, with light variable winds succeeded until the 28th parallel of latitude, when we had southeast and northeast winds, and finally as we approached the coast, they came from west and northwest. The temperature of the air and water continued to fall rapidly, equal to 1° for

each degree of latitude; as the water became colder than the air, we were immersed in dark fog for several days. All navigators, in passing over this track, have experienced the same effect, occasioned no doubt by the warm southeast wind, which usually blows fresh, coming in contact with the cold water from the northwest. On our return voyage, seven months afterwards, we had less fog, the water being of nearly the same degree of temperature with the air. The trade winds were entered in 23° north.

The range of the barometer was increased to ·400 above 30 inches, as we advanced to the north, and attained its maximum height in 45° latitude. The degree of moisture varied during the passage from ·880 to ·820. On our route from San Francisco to the Sandwich Islands, the barometric column again decreased in altitude, the temperature increased in the same ratio as on our route to the coast. The degree of moisture was ·745.

NISQUALLY, OREGON.—It will be well to remark that the climate of Oregon varies much in the different sections, and therefore it will be necessary to speak of all. The middle section is the extent of table land lying 1200 to 2000 feet above the western section, and separated from it by the Cascade Range, which is covered with snow the greater part of the year, while the Blue Mountains divide it from the eastern. This section differs both from the eastern and western divisions in being colder and having less moisture, and in its temperature passing through a greater range.

The observations began at Nisqually, on the 12th May, and were continued at the observatory until the 17th July. Nisqually is situated at the head of Puget's Sound, the extreme southern limit of the estuary leading south from the straits of Juan de Fuca. It lies in latitude 47° 12′ north, and longitude 122° 25′ west, having the Coast Range of mountains on the west, and Cascade Range on the east, the latter always capped with snow. The diagram on Plate XVII., page 558, represents the mean daily movements of the meteorological instruments during the above period. The variations of temperature were great: from 37° to 92° in the shade, the mean temperature being 62·8°, that of the water 53·09°; the mean solar radiation was 69·63°; the maximum in the sun was 112°, while in the shade it stood at 76°; this was on the 4th July. The oscillation of the barometer was ·862, and its mean standing reduced to 32°, 30·040 inches. The winds from the southern quarter have a tendency to depress it, while it rises with northerly ones. The winds are for the most part from the southward

and westward, and seldom from the east. The moisture at Nisqually represents that of western Oregon, it was found to be ·835. The photometer at noon, the mean of several days' observations, stood at 77°, and during the night 0.

The middle section of Oregon is much drier; the temperature has an annual range, of from 18° to 100° Fahr.; the daily range is about 40°. The character of the vegetation is quite different from that of the western,—it gives proof of both the excessive dryness and barrenness of the soil; there are no dews, and rain seldom falls from May to November, but during winter there is much rain and snow. Eastern Oregon is still more remarkable for its fluctuations of temperature. The Rev. Mr. Spalding favoured us with a meteorological diary for 1837–40; these observations are given on the diagram, Plate XVIII., page 568. They were made at Lapwai, on the Kooskooski River, in latitude 46° 27′ north. Lapwai is about 2000 feet above the level of the sea, but it is situated in the valley of the Kooskooski, which is 2000 feet below the general level of that part of the country. From the various accounts I have received of this part of Oregon, I incline to believe, that the observations here represent very nearly the thermometrical changes of that section of the country. The mean monthly temperature, as the diagram will show, is almost a regular curve for the year; but it alone would give a very imperfect idea of the climate; I have therefore added the extremes of temperature which take place during the month. The range of the thermometer, even in July and August, varies from 24° to 108°; the days on which the great extremes occur are marked at the points of the lines, the scale to which they refer being the inner one on the left hand column; there are few months in which the lowness of temperature would not indicate frosts, yet these do not occur. The climate is regarded as a moist one; in winter there is much snow, and in summer much rain falls; the nights are always cool. The thermometer falls in January to —10°, but this is a rare occurrence. In July it reaches the highest point, often rising to 107° or 108°, and in the sun standing at 144°. The greatest monthly and daily range in the two years was 88° and 58°. According to Mr. Spalding, the grass remains green all the year, yet irrigation is found necessary to cultivate the crops. Mean annual temperature 53° Fahrenheit.

At Vancouver, Dr. M'Laughlin was kind enough to keep a meteorological diary during the stay of the Expedition; this has afforded me an opportunity of making the comparison between the western and

eastern coasts of America. The daily oscillations of the barometric column, and variations of the thermometer, at Vancouver, with that at Cambridge, Mass., are brought together on the same diagram, Plate XVIII., page 568, by which it will be seen that the diurnal range at Cambridge is much greater; the means are nearly equal, Cambridge being 67·07°, Vancouver 66°; through the diagrams of Nisqually and San Francisco the observations may be compared in like manner.

The greatest height to which the thermometer rose at Vancouver during the months of June, July, and August, was 98°, and it fell to 39°. The barometric column at Vancouver stands higher than at Cambridge, though it is not subject to as great a range; its mean standing was 30·203 in., that at Cambridge being 30·027 in., and greatest oscillation 1·372 in. The situation of Vancouver differs in many respects from that of Cambridge; it is inland, while Cambridge may be said to be on the sea-coast. Vancouver is in the neighbourhood of high mountains capped with snow. One is as yet surrounded by a virgin forest, while the other is entirely cleared and cultivated. The winds, during the time of the comparison, were from the ocean; the relative time of the observation during the day was the same; the absolute time only differed as in the longitude of the two places. If it be desirable to get the latter, by removing the Vancouver projection one-third forward, they will be almost identical as to time. The state of the weather during the time the comparisons were in progress was fine, no extraordinary changes having taken place.

The winds in the western and middle section of Oregon, in the summer, prevail from the west and southwest; while, in the winter, they blow from the southeast, to which latter circumstance the mildness of the climate is to be imputed during that season. Little rain falls from March to November, but from November till March rain is frequent, though not heavy. Snow seldom falls in the western section: when it does, it lasts but a short time. The nearer the coast, the milder is the climate. The mean temperature at Astoria, as shown by that of a bottle of water buried six feet deep, from September 6th to October 1st, was 54° Fahrenheit: this I should think would very nearly represent the mean annual temperature,—only 1° above the eastern section, yet a totally distinct climate.

The westerly winds, in passing into the interior, lose their moisture by condensation on the eastern range; imbibe it in passing over the middle section, and again it is condensed on the mountains of the

eastern section. The extraordinary daily rise of temperature in the middle section causes great rarefaction, and in consequence a rush of the aerial currents towards it. At Wallawalla, during the summer months, it blows a gale of wind almost every night, but the mornings are calm and pleasant. Easterly winds are seldom felt in any part of western America.

SAN FRANCISCO, CALIFORNIA.—Our stay at San Francisco was during a part of August, and the months of September and October. The diagram on Plate XIX., page 612, exhibits the mean daily results. The position of the Observatory was at Sausalito, on the northwest side of the Bay of San Francisco; the Table Mountain (2000 feet high), rose on the west and on the east the bay extended several miles; we were thus, as it were, sheltered from the prevailing winds. The mean standing of the barometer was 29·896 inches, its greatest oscillation being ·416 in. The mean thermometer 61·37°, its maximum 91°, minimum 47°; in the sun it rose to 112°, at the same time in shade 86°; the mean solar radiation was 9° difference with shade; the degree of moisture ·701. The winds at San Francisco were constantly from the northwest to southwest, and for several hours daily blew a strong gale. Rain occurs only in the winter months from November till March; but frequently none falls even then, and droughts sometimes prevail for upwards of a year. Cultivation is entirely dependent upon irrigation. With the observations at San Francisco I have brought those made at Washington City during the same period, into comparison; they are shown on Plate XVI., page 516. These two places are more nearly on a parallel than Cambridge and Vancouver, and the positions are reversed, San Francisco being situated on the seaboard in the western, while Washington lies as much in the interior on the eastern as Vancouver is on the western. The mean daily results, when compared, are extremely interesting. In this case the barometer, as before, stands lowest on the sea-coast: the mean of that at Washington being 30·058 inches, while that at San Francisco is but 29·896 inches. The oscillations are also dissimilar; there is scarcely a day in which they are found to agree: the temperatures are also dissimilar, except a few days about the autumnal equinox. The mean temperature for the period at Washington was 61·1°; maximum, 88·5°; minimum, 33°. The difference between San Francisco and Washington is 27° for the mean; 3° for the maximum, and 14° for the minimum higher at the former. The highest temperature at Washington was on the 30th August, while that at San

Francisco did not occur until the 20th October. The solar radiation 17·7°; greatest difference 32°, least 2·5°.

The temperature of San Francisco is lower than in the interior of California. In the valley of the Sacramento the thermometer often rises to 114° in the shade; the valley is confined between two mountain ranges, that bordering the coast, and the Californian mountains, from 6000 to 9000 feet in height. The prevailing winds pass over the valley nearly at right angles to it, on their course towards the interior of the country, to fill the partial vacuum caused by the rarefied air over the vast arid and barren waste which occupies the centre of California; their moisture being condensed on the mountain ranges, they have none to impart to give fertility to the soil.

PEACOCK'S CRUISE TO KINGSMILL GROUP. — Plate XXIII., Appendix, exhibits three diagrams,—one showing the track of the Peacock from Oahu across the equator, to the Samoan Islands, in 15° south latitude, a distance of 2000 miles, thence to the Kingsmill Group, and from the latter passing out of the tropics to the latitude of 35° north, on her return to Oahu. On the other two is projected the variations of temperature of the air and water, and the oscillation of the barometer. It is almost needless to call attention to the remarkable results exhibited by the latter, showing the depressions of the barometer while within the basin of the Pacific, and how immediately the pressure increases after passing beyond the parallel of the tropics. The Peacock during this cruise passed within the area of the ocean having the highest temperature on the surface of the globe, which lies just to the north of the Samoan Islands. The climate of the Kingsmill Group is divided into two seasons. During the stormy season, from October till April, the northwest winds prevail; but they are occasionally visited by heavy southwest gales, which last several days and resemble typhoons; they veer round to the north-by-west. From April till September they have an uninterrupted succession of fair weather, clear skies, with the wind constantly from the eastward. During the month of April the mean temperature was 82·9°; maximum 86°, minimum 78°, mean solar radiation 18·6°, maximum sun 132°, minimum 98°.

The climate as respects temperature is an equable one, and although the temperature is high, it is not found to be oppressive, owing probably to the prevalence of breezes. The mean standing of the barometer was 29·867 in., its oscillation ·230. The rains are violent in the stormy season, but in the fair, they have but occasional showers.

HAWAIIAN ISLANDS, TO MANILLA AND SINGAPORE.— The diagram on Plate XX., page 670, exhibits the meteorological phenomena on this passage; it occupied us 82 days, including a stay of 10 days at Manilla, in the island of Luzon, and four days at Sooung, and the Mangsee Islands, in the Sooloo Sea. It will be perceived that on entering within the tropics, the barometer underwent the depression which has been before spoken of, and that it continued throughout the voyage between the above places, except as we approached, and while to the windward of, the high land which bounds the entrance to the China Sea.

The temperature of the air during our passage to Singapore, varied from 75° to 80°, and that of the water, 76° to 82°. After passing the Marian or Ladrone Islands, we lost the easterly trade winds, and encountered variable winds till within five hundred miles of the Bashee Islands, when we entered the northeast monsoon, at the entrance of the China Sea. The period of our stay at Manilla was too short for our observations to give us any reliable results. We found the mean temperature of the air in January, 77·54°, maximum 83°, minimum 70°; that of the water 80·18°; and the mean standing of the barometer 29·938 inches, its oscillation ·140. I was in hopes I should have been enabled to throw some light upon the climate of Manilla, having obtained while there a meteorological register, kept by a Dominican friar; but on examination it has proved so totally unworthy of confidence, that I cannot venture to give it a place; as an instance, I would cite that it gives the oscillation of the barometer, during a single month, equal to 2·100 in., its highest range being recorded as 30·460 in., and the lowest 28·360 in. Were this but a single instance, I might impute it to an erroneous entry; but these are frequent, and stated in the remarks as to the results of the month: this so far exceeds any observations in the tropics hitherto recorded, that I cannot but view the tables as a tissue of mistakes. The variations for temperature also seem too great to entitle them to credit, the highest being 98°, the lowest 69°, and this in the first spring month. Yet it seems scarcely possible that any one should wish to falsify a record kept for his own amusement; charity would suggest that some of his assistants were ignorant. The seasons, as in most tropical countries, are to be divided into the wet and dry, which correspond with the periods of the monsoons: the former with that of the northwest. The rains begin in May, and cannot be said to cease till the middle or end of October. The dry season comprises the remainder of the year.

Manilla is situated within the range of the typhoons; it is at times subject to those disastrous hurricanes. They seldom if ever approach nearer to the equator than 9° of latitude in the China Sea; they are expected in the months of June and July. Their duration is seldom over six or seven hours, but in that time they make terrible havoc; they come on from the eastward, and veer to the southward and southwest; when it clears, the monsoon resumes its usual character.

There has been no record kept of the amount of rain at Manilla: as far as I could ascertain, the fall is supposed to be very great.

Our route, after leaving Manilla, was through the Sooloo Sea, stopping at the island of Mindanao, the most southern of the Philippines, and afterwards at that of Sooloo. In this sea the monsoons do not prevail with the same regularity as in the China Sea. The high islands on the west and east serve to divert them from their usual directions. The climate, like that of the Philippines, is divided into a wet and dry season, the former from May till September, the latter from October to April. During June and July strong gales prevail from the westward. In August and September the winds are from the south, and at times blow in hard gales; and during December and January they are subject to gales from the north: the rest of the year the winds are light and variable, from the southwest during the wet, and the northeast in the dry season; frequent calms also take place. The barometer during our passage ranged at 29·950 in. At the island of Sooloo we remained four days: the mean standing of the barometer was 29·856 in., that of the thermometer in the air 79·1°, water 79·3°. In the Sooloo Sea we found the solar radiation, the mean of 23 observations, sun 104·7°, shade 81·7°, difference 23°; greatest difference 40°, least 7°. The maximum temperature at the island of Sooloo throughout the year, is 87°, and the minimum 75°.

From the Sooloo Sea to Singapore, we crossed the China Sea obliquely, favoured with the northeast monsoon, in seven days. The weather was remarkably fine, and the breeze moderate: unlike the trade winds, it does not appear to have its periods of increase and decrease, and is more equable throughout the day and night. This would point to a different cause from that which is generally thought to be required to produce the effects witnessed. I regret that my space here will not permit me to enter more fully into this subject; but I shall endeavour to do so in another department of the Expedition.

The stay of the squadron at Singapore was from the 19th January till the 26th February. The barometer ranged 29·979 in., the maximum temperature 87°, minimum 74°. The climate is very equable, seldom varying more than a few degrees throughout the year, from 79° to 84°; this includes the hours between 6 A.M. and 6 P.M., the mean being 80·18°. Showers occur almost daily, which refresh and cool the air; the wind blows moderately, generally through the straits from the eastward, being little influenced by the monsoons. Neither the typhoons of the China Sea nor the hurricanes of the Indian Ocean are felt here; they frequently, however, are notified that these destructive phenomena are taking place, not only from the rise of the waters, but the rolling in of heavy swells. According to reliable information, rain falls one-half of the year; the greatest quantity in December and January, and the least in April and May. During the former period, the northeast monsoon is at its height, and in the latter, it changes from the northeast to southwest. The greatest daily range of the thermometer is 10°. During February, the degree of moisture was ·879. I have already stated that the climate of Singapore is thought a remarkably healthful one, and ascribe it to the constant verdure brought about by the continual showers, as well as the absence of any variation of temperature.

FROM SINGAPORE TO CAPE OF GOOD HOPE.—Our passage was made between the above places in the months of March, April, and May. As we passed towards the Straits of Sunda, we found that we were encountering the weather usual towards the end of the northeast monsoon; it was frequently overcast, and during the night much rain fell, with lightning and thunder, and a failure of the wind, with gusts from the westward. Passing out of the Straits, we encountered northwesterly winds, and during their continuance we had almost incessant wet weather, until we reached latitude 17° south, and longitude 98° east, when we entered the southeast trade winds, which continued until we arrived in longitude 38° east, and in latitude 28° south. As this passage was made during the season of the hurricanes, I was in hopes we should have encountered one; twice we had strong indications of the near approach of one. In longitude 80° east, latitude 20° south, we must have been but little removed from the vortex of one of these gales: the wind shifted to the north, the barometer fell to 29·79 in., occasionally oscillating, and continued to do so for the period of 24 hours. The heavy swells came rapidly from the westward, through a distance of seventy miles, and the next day it changed its

direction to the southeast, and continued through a distance of fifty miles. I make mention of these facts, as it seems to me to go to prove that the barometer, on the margin of these hurricanes, falls, and continues depressed until they have passed. I have carefully examined for records of a gale at this period, but have nowhere met with any notice of one. The depression of the barometer, within the tropics, as before remarked, continued until we passed to a higher latitude, and reached the longitude of 45°, when it rose and continued to oscillate remarkably above 30 in., as will be seen by the diagram on Plate XXI., page 706. Until our arrival at the Cape of Good Hope, the temperature of the air varied from 79° to 65°, between the latitude of 10° and 34° south, nearly ·5° to each degree of latitude. It will be seen by the diagram that it was generally a few degrees colder than the water. The variation in the temperature of the water a few days before our arrival, and when near the Cape of Good Hope, shows the existence of the cold and warm currents, which have a remarkable effect upon the climate of the Cape; of this I have made mention in the Narrative, to which I would refer for the particular observations on the temperature of the ocean; the diagram also exhibits these variations very forcibly. The rain which fell upon this passage amounted to 2·37 in.: it was experienced in the first part of the passage, and continued until we passed beyond the northwest monsoon, or to the northward of 15° south latitude, and east of 100° east longitude. The temperature of the rain was 76°, the temperature of the atmosphere being at this time 82°. I would also refer to the phenomena, of frequent occurrence to the eastward of the Cape, of heavy thunder-gusts, and the peculiarity of their enveloping one half of the eastern sky: the beauty of these phenomena is very striking, affording under a bright sunshine and delightful atmosphere a view of the storm-clouds occupying one-half the firmament, while the forked lightnings, and the roaring thunder, were almost incessant. The same phenomena may be met with near the Gulf Stream, and are probably engendered by the same causes. Near the Cape, the warm tropical currents are well defined, and it is on their edge that these remarkable appearances occur. From the information I received, they are local in their character, or confined to the edge of the tropical currents.

CAPE OF GOOD HOPE. — Cape Town is not a suitable locality to afford correct meteorological data, situated as it is under the Table Mountain, and in a country so variable in surface as South Africa. It would be difficult to find any position which would represent the

diversity of climate as to temperature and moisture. Through the kindness of several gentlemen, I obtained information upon this subject, but have not deemed it necessary to embrace it on the diagram. The principal causes affecting the climate of the Cape, are the warm and cold currents; those on the southeast side flow from the equator, whilst those on the west come from the south polar regions; the winds from the southeast prevail from November to April; these pass over the warm currents, and acquire their temperature; while those that prevail from May till October come from the north and northwest, which pass over the cold currents. The mean temperature in summer varies from 73° to 79°, and in winter from 57° to 62°. The mean annual temperature is 67° Fahr. The southeast, though they are polar winds, bring fine weather; those from north and northwest, tropical winds, are accompanied by fogs, mists, and rain. It is true that the former period comprises the summer, and the latter the winter months; yet the peculiarity of climate cannot well be accounted for, unless we ascribe it to these winds passing over and acquiring the temperature of the ocean water. During our stay the mean height of the barometer was 30·078 inches, the temperature of the air varied from 57° to 81°, the degree of moisture was found to be ·855. The height of the vapour plain is marked on the face of the Table Mountain, at 1,000 feet above the level of the sea. Near the Cape refractions in the atmosphere are very common. I have made mention of them in the Narrative, to which I would refer. These phenomena were constantly seen when the thermometer at the mast-head differed from the one on deck.

CAPE OF GOOD HOPE TO ST. HELENA AND NEW YORK.—Our passage was made to St. Helena in 15 days, during the latter part of April. The course was direct: the temperature of the air on reaching the 17th degree of latitude had increased from 64° to 73°, that of the water from 66·5° to 74°. The barometer for the first few days continued to fluctuate, and stood below 30 inches; but as we increased our distance from the African coast, and until we reached St. Helena, it remained above 30 inches.

We entered the trades in 24° south latitude, 2° 40′ east longitude; the winds had been quite moderate and very light from southwest to southeast with a smooth sea, for ten days previously, and scarcely a swell to give motion to the ship, during which time we passed over 800 miles of ocean.

St. Helena is situated in mid-ocean, and affords a comparison

with some of the islands in the Pacific similarly situated. The first phenomenon differing from the islands situated in the same latitude in the Pacific is the constancy of the southeast trades; these blow almost without intermission throughout the year, between the southward and eastward. There is no change during the summer months, either in the cessation or fluctuation of the trade winds, excepting for a few days in June, when they blow from the northeast. Its temperature is much lower, corresponding with the surrounding ocean. The variations throughout the year at Jamestown do not exceed 13°, from 66° to 79° and the oscillation of the barometer ·065. The height of the vapour plain is about 2,000 feet. Rain falls in frequent showers; the annual amount, in 1842, according to observations made at the observatory, 1765 feet above the ocean, was 79·40 inches; but this would not be obtained elsewhere on the island, it being on that part fully exposed to the southeast winds, and where the deposition is going on almost constantly, a position that can hardly furnish a fair criterion of the climate of this sea-girt island.

We carried the southeast trades to 1° south latitude, in 30° west longitude, and the same day entered the northeast trades, which continued uninterrupted, and freshened as we advanced to the northward and westward, until we reached the parallel of 25° north, in longitude 61° west, where we lost them. As we approached the vicinity of the Gulf Stream, we had the wind from the southward and westward, and variable. We crossed it, with strong winds from the eastward, in latitude 35° 20′ north, and 73° 45′ west longitude, where we found it forty-seven miles in width; the highest temperature was found on its inner edge, the thermometer standing at 79° Fahrenheit, and but a short distance within 67°. In this passage the variation of the temperature of the air and water together, with the oscillation of the barometer, were similar to what we found them on our outward voyage. The diagram on Plate XXII., page 726, exhibits the result. The highest temperature occurred in and near the equator, in longitude 30° west. The barometer, it will be seen, continued depressed below 30 inches, between 15° south and 15° north latitude, our track passing over the equatorial Atlantic in a northwest direction.

THE CRUISES OF THE PORPOISE AND RELIEF.—The diagram on Plate XXIV., Appendix, shows the results of the observations made with the sympiesometer and barometer on board the Porpoise and Relief when detached on separate service. It will be seen that these

fully confirm the results obtained by the other vessels, cutting the great Pacific Ocean in different directions. These need no explanation. The diagram shows the route; and the lines of reduced observations, which are marked with corresponding dates, point out the locality and result.

MAP OF AREAS OF TEMPERATURE. — The map which faces the title-page, is intended to point out the areas of temperature, embraced in every 5° of temperature from that of perpetual frost up to the temperature of 90°, and above. The basis of this is found in the records of the Expedition; but in order to complete the areas, I have had recourse to very many authorities, and in some cases I have been obliged to rely upon observations by no means as satisfactory as I could wish, more from the doubtfulness of the position, than the thermometric observations. In consequence, it is only offered as a near approximation, in hopes that attention may be called more fully to the subject, which may afford an opportunity at some future day of perfecting it. On the continents, the isotheral and isocheimal curves have been drawn in preference to that of the isothermals, which latter give but little, if any, idea of the climate. In an examination of this map, every one must be struck by the great influence which the areas of ocean temperature must have upon the continents: and, instead of looking entirely to the continents (as has been hitherto done), to produce the phenomena of temperature, and the ever-changing aerial currents, we should seek for the causes in the vast areas of ocean, which are constantly radiating heat, and which we see creating many disturbances in the perennial winds, as well as in the atmosphere in all parts of the globe. And to what more probable cause can they be assigned, than the influx of air to restore the equilibrium over the vast areas of rarefied surfaces? From the recorded observations in this volume, many instances might be cited, which would go to prove the influence that is exerted by these areas on the winds, clearly pointing out their tendency towards their centres; but my space will not permit my doing it here, and I shall content myself with drawing the attention of observers more particularly to the influences that the ocean areas of temperature may have upon the climates, winds, and storms, that seem to emanate from, or appear to be engendered by them.

In concluding this Introduction, I must offer my acknowledgments for the assistance I have received from Surgeon John L. Fox, and Passed Midshipman John Wilkes, of the Navy, in preparing the tables for the press, and to Mr. Joseph Drayton, superintendent of the draw-

ings and engravings, and Mr. F. D. Stuart, draughtsman of the Expedition, for their aid in projecting the diagrams, and their assistance in making the calculations for reduction to a common standard temperature and height, &c.

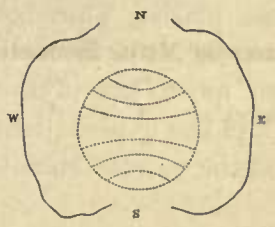
The following are the corrections that have been applied to the various instruments used on board the vessels to reduce them to the Vincennes' standard.

Vincennes'	Marine	Barometer,	No. 1,	+·090 till June, 1839;	capacity 27 inches.
"	"	"	" 2,	+·001 remainder of cruise,	"
Peacock's	"	"	" 1,	—·180 to 20th June, 1839,	"
"	"	"	" 2,	+·089 until broken, 1840,	"
"	"	"	" 3,	+·122 from March, 1840, till July, 1841.	"
Relief's	"	"		+·074 whole cruise,	"
Porpoise's	"	"		+·390 1839,	"
"	Sympiesometer,			+·570 to 15th January, afterwards +·230, 1841.	

The correction for capillary attraction has not been applied to any of the observations that have been reduced; the reasons for which I would here assign, if my space would permit. I have, however, given the capacity, and state that I believe the mercury to have been boiled when filled.

In conclusion, I desire to call attention to the general results of the Meteorological Observations of the Expedition. Hitherto, I have abstained, as far as possible, from giving anything but the facts, and those I have stated have been for the purpose of illustrating the diagrams. The most remarkable phenomenon which our observations have shown, is the irregular outline of the atmosphere surrounding the earth, as indicated by the pressure on the mercurial column at different parts of its surface. Our barometric observations show a depression within the tropics, a bulging in the temperate zone, again undergoing a depression on advancing towards the Arctic and Antarctic circles. The difference between the northern and southern hemisphere is equal to ·929 in., whilst that between the eastern and western sections (supposing the globe to be divided through the American Continent), will be ·097 in. at the equator. On the east side, at the parallels of 40° north and south, the pressure in the northern hemisphere exceeds that of the southern by ·231 in. On the west side, on the same parallels, the difference is ·171 in favour of the northern. The difference of pressure on the western, exceeds the

eastern by ·013 in the northern hemisphere; but in the southern, it is ·047 in favour of the eastern. The annexed diagram will serve to illustrate this irregular outline, which is produced by projecting the corresponding mean heights of the barometer for every 5° of latitude. Although it is difficult to account or assign a cause for this phenomenon, yet it would seem to result from the difference or unequal distribution of the land and water in the two hemispheres. And this opinion is somewhat strengthened from the same, though a much less difference, occurring in longitude, as it will be perceived that the western section, comprising the Pacific Ocean, is almost destitute of land, when brought into comparison with the eastern on the same parallels. The bulging of the outline within the north and south temperate zone is different on whatever meridian a section of the globe may be made; the former being greater than the latter: and here again we see the great disparity of land that exists.



Will not this irregular outline of the atmosphere readily account for many of the oscillations, or wave-like undulations, to which our atmosphere is subject, and its constant variations, which are found to be progressive over large areas? Must not the inequality in height at all times tend to cause action and reaction? Hence the atmospheric tides. In different latitudes these are seen by the oscillations of the barometer to be extremely unequal, and the greatest inequalities corresponding to those latitudes when the column stands highest; while within the tropics, where the pressure is less, the oscillations are more regular, and free from the disturbances and sudden changes which so frequently take place in the temperate zone. The changes of pressure proceeding north and south on a meridian, have been, in some cases, imputed to the action of the trade winds, from its occurring within their limits. From what has been already shown in these pages, it is evident that this cannot hold good in the Southern Pacific; for it will be recollected that they are confined with narrow limits in latitude, as well as being intermitted for a part of the year, and that this depression extends through the zone of variable winds near the equator.

The degree of moisture is greater in the southern hemisphere than the northern, as also in the western section than the eastern. To

this, I have thought, might be imputed in part the difference in the pressure.

The intensity of light and feebleness of the solar radiation has been proved, by our instruments, to be much less in the southern hemisphere in high latitudes: the former appears to be confirmed by the experiments made to ascertain the penetrability of light in the water. The experiments which have led to these results cannot be given in this place. They belong to another part of this work, in which they will be given in detail. On the temperature, it will be unnecessary for me to say anything farther, as I have already made reference to it, in the explanations of the diagrams and the remarks I have offered on the various climates we have visited.

UNIV. OF CALIFORNIA

JOURNAL

OF

METEOROLOGICAL OBSERVATIONS,

BY THE

UNITED STATES

EXPLORING EXPEDITION,

DURING THE YEARS

1838, 1839, 1840, 1841, 1842.

TABLE OF SYMBOLS.

The following figures and letters have been adopted to show the force of the wind, and to express the state of the weather.

0. Calm.
1. Light air.
2. Light breeze.
3. Gentle breeze.
4. Moderate breeze.
5. Fresh breeze.
6. Strong breeze.
7. Moderate gale.
8. Fresh gale.
9. Strong gale.
10. Whole gale.
11. Storm.
12. Hurricane.
b. Blue sky; whether with clear or hazy atmosphere.
c. Cloudy, but detached clouds.
d. Drizzling rain.
f. Foggy.
F. Thick fog.
g. Gloomy dark weather.
h. Hail.
l. Lightning.
m. Misty, hazy atmosphere.
o. Overcast, the whole sky being covered.
p. Passing showers.
q. Squally.
r. Rain.
s. Snow.
t. Thunder.
u. Ugly, threatening appearances.
v. Visibility of distant objects.
w. Wet dew.

. Under any letter, shows an extraordinary degree of the state of weather desired to be expressed.

Univ. of California

METEOROLOGICAL OBSERVATIONS,

BY THE

UNITED STATES EXPLORING EXPEDITION.

U. S. SHIP VINCENNES—FROM NORFOLK TO FUNCHAL, MADEIRA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water	Mast head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 20												
1 A. M.			76°	76°				N^{d}. & E^{d}.	2	Cum. st.	b. c.	Steering to southward and eastward.
2 "			76	76								
3 "			75	76		30·300						
4 "			75	76								
5 "			76	77								
6 "			76	77								
7 "			78	77								
8 "			78	79					4			
9 "			79	81		30·300						
10 "												
11 "											c.	
12 "	35° 08′	74° 23′	79	82·3								
1 P. M.			81	83				N.E.byE.				
2 "			80	83								
3 "			80	83		30·300						
4 "			80	83				N. E.				
5 "			79	83							b. c.	
6 "			79	83					5			
7 "			78	83								
8 "			77	82								
9 "			76	81		30·310			4			
10 "			76	82				N^{d}. & E^{d}.				
11 "			76	81								
12 "			76	80								
Mean.			77·5	80·18		30·302						
Aug. 21												
1 A. M.			76°	80°				E. N. E.	4	Cum. st.	c.	
2 "			74	80				N.E.byE.				Passed much Gulf-weed (Fucus natans.)
3 "			73	80		30·310		N. E.				
4 "			72	79					5			
5 "			74	80				N.E.byE.				
6 "			76	80								
7 "			78	81				N^{d}. & E^{d}.				
8 "			78	82								
9 "			79	81	73°	30·320	80° 58°					
10 "			79	81								
11 "			79	82							b. c.	
12 "	33° 48′	73° 08′	79	82								Steering to southward and eastward.
1 P. M.			77	82								
2 "			75	80								
3 "			76	80	70°	30·320	81° 59°					
4 "			75·5	80								
5 "			75	80								
6 "									4			
7 "			74	79				E. ½ N.				
8 "			72	80				East.				
9 "			74	81		30·300	80° 59°					
10 "			75	79				E. by N.				
11 "			74	79								
12 "			74	79								
Mean.			75 56	80·3	71·5	30·312						

U. S. SHIP VINCENNES.

FROM NORFOLK TO FUNCHAL, MADEIRA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 22												
1 A. M.			74°	79°				E. by N.	4	Cum. st.	b. c.	Steering to southward.
2 "			73	79								
3 "			74	79		30·320	82° 60°					
4 "			74	79					5			
5 "			74	79								
6 "			75	79								
7 "			75	79								
8 "			77	79								Outer edge of Gulf Stream.
9 "			78	79	77°	30·310	83° 70°	N^{d}. & E^{d}.				
10 "			80	79								
11 "			78	79								
12 "	32° 52′	72° 08′	78	79								
1 P. M.								E. ½ N.	4			Quantities of Gulf-weed.
2 "			80	79								
3 "			79	81	75°	30·310	82° 60°	E. by N.				
4 "			80	81								
5 "			77	80				E. by S.				Steering to northward.
6 "			77	80								
7 "			77	80								
8 "			77	80				S^{d}. & E^{d}.	3			
9 "			77	80		30·300	83° 64°					
10 "			79	79								
11 "			77	77					2			
12 "			75	78					3			
Mean.			76·73	79·26	76°	30·310						
Aug. 23												
1 A. M.			74°	78°				S^{d}. & E^{d}.	2	Clear.	b.	
2 "			73	80								
3 "			73	79	75°	30·310	80° 57°					Relief parted company.
4 "			73	79								
5 "			73	78								
6 "			74	77				E. ½ N.				
7 "			76	77					3			
8 "			79	77				E. by S.	4			Current to the westward.
9 "			76	77	73·3	30·310	83° 64°					
10 "			78	77								
11 "			78	77								
12 "	34° 39′	72° 01′	75	77				East.	3			
1 P. M.			75	77				E. ½ N.	2			
2 "			76	77								
3 "			77	77	74°	30·320	82° 65°					
4 "			77	78					3		b. c.	
5 "			76	78								
6 "			74	76					2	Cumuli		
7 "			74	77								Steering north.
8 "			74	78								
9 "			75	77	70·5	30·310	81° 68°	East.				
10 "			74	77				E. ½ S.				
11 "			74	77				East.				
12 "			73	78								
Mean.			75 04	77·5	73·2	30·312						

U. S. SHIP VINCENNES.

FROM NORFOLK TO FUNCHAL, MADEIRA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 24												
1 A. M.			73°	78°				East'.	3	Cumuli.	b. c.	Steering north.
2 "			73	77								
3 "			73	77		30·300	80° 67°					
4 "			74	76								
5 "			74	78						Cum. st.		
6 "			76	78								Many dolphins seen
7 "			79	79								and caught.
8 "			79	79				Sd. & Ed.				
9 "			79	79	75°	30·310	82° 70°					
10 "			80	80								Gulf-weed and bam-
11 "			83	82								boo picked up.
12 "	36° 08′	71° 24′	83·5	83·5								
1 P. M.			84	83								
2 "			83	83						Cumuli.		
3 "			82	84	84°	30·310	82° 64°					
4 "			82	84								
5 "			82	83								
6 "			80	83								
7 "												N. N. E.
8 "			76	83								
9 "			77	82		30·310	81° 69°					
10 "			78	82								
11 "			78	82								
12 "			79	82								
Mean.			78·56	80·73	74·5	30·307						
Aug. 25												
1 A. M.			79°	82°				Sd. & Ed.	3	Cum. st.	c.	Steering E. by N.
2 "			78	82								
3 "			78	82	77°	30·280	80° 65°					
4 "			78	83								
5 "			78	83								
6 "			79	83								Influenced by easter-
7 "			79	83								ly currents.
8 "			80	83					4			
9 "			80·5	82	78°	30·200	83° 74°					
10 "			81	81								
11 "			81	80								
12 "	36° 43′	69° 34′	80·5	80							c. u.	
1 P. M.			80	81							c.	
2 "			80	80·5								
3 "			80	80	73°	30·200	82° 70°					
4 "			80	80								
5 "			80	80					5		c. q.	
6 "			79	80·5								
7 "			78	79								
8 "			77	79					6			
9 "			77	79		30·150	82° 71°		5			
10 "			78	78								
11 "			78	78								
12 "			78	78								
Mean.			79·04	80·7	76	30·208						

U. S. SHIP VINCENNES.

FROM NORFOLK TO FUNCHAL, MADEIRA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 26												
1 A. M.			77°	77°				S. E'.	5		c. q. p.	Course N. 79° E.
2 "			77	77					6			
3 "			77	77	76°	30·100	82° 72°					
4 "			77	77					7		c. q. p.	
5 "			76	77				Sd.				
6 "			76	78								
7 "			76	80				S. S. W.				Influence of easterly current.
8 "			76	80								
9 "			79	82	74°	29·890	83° 75°		6			
10 "			79	82								
11 "			79	82						Nimbi.	c.	
12 "	37° 14'	66° 08'	79	82					5			
1 P. M.			80	81				W. S. W.				
2 "			80	81							c. q.	
3 "			75	82	74°	29·850	84° 73°					
4 "			76	82				W. by N.				Peacock parted company.
5 "			76	83				West.				
6 "			76	83				"				
7 "			77	81				Var. from			c. p.	
8 "			77	81				S. S. W. to				
9 "			76	81	74·3	29·950	83° 65°	N. N. W.			c. q. p. l.	
10 "			76	81								
11 "			76	81								
12 "			74	78								
Mean.			76·95	80 02	74·57	29·947						
Aug. 27												
1 A. M.			74°	78°				N. W.	5		c. q.	Course S. 86° E.
2 "			73	78					6			
3 "			73	78		29·750	84° 75°					
4 "			72	78							b.	Easterly current.
5 "			71	78					5			
6 "			72	77								
7 "			70	77								
8 "			72	79						Cirri.	c.	
9 "			70	79		29·950	78° 70°					
10 "			71	79								
11 "			71	79								
12 "	37° 04'	62° 02'	71	79								
1 P. M.			72	79								
2 "			73	79								
3 "			73	79		30·000	78° 60°			Cirri &	b. c.	
4 "			72	79					4	cumuli.		
5 "												
6 "								Westd.				
7 "			71	79								
8 "			71	79								
9 "			70	77	69°	30·100	84° 55°					
10 "			70	77								
11 "			70	77								
12 "			69	77								
Mean.			70·18	79·59	69	29·950						

U. S. SHIP VINCENNES.

FROM NORFOLK TO FUNCHAL, MADEIRA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 28.												
1 A. M.			69°	77°				N^{d} & W^{d}.	4	Cirri.	b. c.	Course S. 85° E.
2 "			69	77					3			
3 "			69	77	71°	30·100	75° 55°		2			
4 "			69	77					1			
5 "			69	77				S^{d}.		cir.cum.		
6 "			70	77								
7 "			71·5	77					2			
8 "			72	76					4			
9 "			73	77		30·150	74° 59°					Less current.
10 "			75	77								
11 "			76	78								
12 "	36° 53′	59° 39′	78	78								
1 P. M.			78	79					3			
2 "			78	79						Cum. st.	c.	
3 "			78	78	80°	30·150	78° 59°					
4 "			76	78								
5 "			75	79								
6 "			75	79								
7 "			74	78								
8 "			73	76								
9 "			73	77	72°	30·200	78° 60°					
10 "			73	77								
11 "			73	77								
12 "			73	77								
Mean.			73·31	77·47	74·33	30·150						
Aug. 29.												
1 A. M.			73°	77°				S^{d}.	3	Cum. st.	b. c.	Course N. 88° E.
2 "			73	77								
3 "			73	76	72°	30·200	78° 64°					
4 "			73	76								
5 "			74	77					4			
6 "			75	78								
7 "			74	78								No current.
8 "			75	80								
9 "			76	77·5	76°	30·250	78° 64°					
10 "			78	77·5							c.	
11 "			78	77·5								
12 "	37° 00′	57° 05′	76	76·5				S^{d}. & E^{d}.				
1 P. M.			77	77								
2 "			78	76								
3 "			78	77	78°	30·250	79° 65°					
4 "			78	77								
5 "			77	76								
6 "			76	77					3		o.	
7 "			76	77								
8 "			76	77								
9 "			76	77		30·300	80° 65°					
10 "			76	77								
11 "			76	77								
12 "			76	77								
Mean.			75·75	77·08	75·33	30·250						

U. S. SHIP VINCENNES.

FROM NORFOLK TO FUNCHAL, MADEIRA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 30.												
1 A. M.			74°	77°				Var.	2	Nimbi.	c. p.	Course N. 70° E.
2 "			74	77								
3 "			75	77	70°	30·250	80° 65°			Cirri.	c.	
4 "			75	77								
5 "			76	77				Sd. & Ed.				Current easterly.
6 "			77	77					4			
7 "			78	77							b.	
8 "			79	77								
9 "			79	77	78°	30·290	78° 66°					Spoke an English brig, standing to the northward.
10 "			79	77								
11 "			81	77					5			
12 "	37° 43′	54° 36′	81	77				Sd.				
1 P. M.			78	78								
2 "			78	78								
3 "			78	78	82°	30·250	83° 68°					
4 "			77	78								
5 "			78	77								
6 "			77	77						Cum. st.	c.	
7 "			77	77								
8 "			77	77								
9 "			76	77	75°	30·250	80° 65°		4			
10 "			76	77								
11 "			76	77								
12 "			75	77								
Mean.			77·36	77·16	76·25	30·260						
Aug. 31.												
1 A. M.			75°	75°				Sd.	4	Cum. st.	b. c.	
2 "			75	76								
3 "			75	76	73°	30·150	78° 66°					
4 "			75	75								
5 "			75	77					5			Course N. 83° E.
6 "			76	77								
7 "			76	77								
8 "			77	77								
9 "			79	77	76°	30·180	81° 67°				Hazy.	
10 "			81	78								
11 "			81	78							c.	Passed four vessels steering N. E.
12 "	37° 59′	51° 24′	81	78								
1 P. M.			80	77					4			
2 "			79	77					5			No current.
3 "			79	77	80°	30·150	80° 66°	S. by W.		Cumuli.		
4 "			79	77								
5 "			78	77								
6 "			77	77								
7 "			77	76								
8 "			77	76								
9 "			76	76		30·150	80° 71°					
10 "			76	76						Cirri.		
11 "			76	76								
12 "			76	77								
Mean.			77·33	76·66	76·33	30·157						

U. S. SHIP VINCENNES.

FROM NORFOLK TO FUNCHAL, MADEIRA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 1st.												
1 A. M.			76°	77·5°				S. by W.	6	Nimbi.	c.	Course east.
2 "			76	77								
3 "			76	77	74°	30·150	80° 71°					
4 "			76	77								
5 "			76	77								
6 "			76	77								
7 "			76	77								
8 "			76	77								Spoke a whaling brig.
9 "			77	77		30·200	77° 72°					thirty days from the
10 "			77	76·5								United States.
11 "									5		b.	
12 "	38° 00′	46° 53′	78	76·5								
1 P. M.			78	77								
2 "			79	77				S^{d}.				
3 "			79	77	80°	30·250	80° 75°					
4 "			78	77								
5 "			78	77								
6 "			77	77								
7 "			77	77								
8 "			77	77						Nimbi.	c. p.	
9 "			75	79	71°	30·280	78° 75°					
10 "			75	78·5					4			
11 "			78	78·5								
12 "			77	78								
Mean.			76·86	77·23	75	30·220						
Sept. 2d.												Course east.
1 A. M.			78°	78°				S^{d}.	4	Nimbi.	c. p.	
2 "			77	78								
3 "			76	78	74°	30·300	79° 76°					
4 "			76	78							c. q. p.	
5 "			76	77								
6 "			76	77								
7 "			73	77					3			
8 "			74	77								
9 "			78	77	74°	30·350	78° 71°				c. p.	
10 "			78	77					2			
11 "			78	77				Var.				
12 "	37° 51′	43° 50′	77	77								Spoke a brig from
1 P. M.			79	77					1		c.	Salem, bound to
2 "			80	78								Cadiz.
3 "			80	78	84°	30·400	78° 70°					
4 "			80	78								
5 "			78	77								
6 "			76	77								Saw a strange brig
7 "			76	78					2			steering to north-
8 "			76	78				East.				ward.
9 "			75	76	73°	30·450	77° 71°				b. c.	
10 "			75	76				E. by N.	3			
11 "			73	76								
12 "			73	76				East.				
Mean.			76·58	77·2	76·35	30·375						

U. S. SHIP VINCENNES.

FROM NORFOLK TO FUNCHAL, MADEIRA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds	Weather.	Remarks.
Sept. 3d.												
1 A. M.			73°	76°				N. E.	4	Nimbi.	c. p.	Steering southward and eastward.
2 "			74	76								
3 "			75	76	75°	30·450	75° 60°				c.	
4 "			74	76						Cirri.		
5 "			75	78				E. N. E.				Spoke ship Sandrack,
6 "			75	78				East.				bound to Liverpool.
7 "			75	78				E. N. E.				
8 "			75	78				E. ½ S.				
9 "			77	78	74°	30·500	75° 66°					
10 "			76	78								
11 "			75	78								
12 "	37° 11′	42° 37′	74	78							b. c.	
1 P. M.			75	78					4			
2 "			75	78								
3 "			74	77·5		30·490	75° 60°					
4 "			74	77·5								
5 "			75	76				East.				
6 "			75	76				E. ½ S.				
7 "			74	77							b.	
8 "			74	76								
9 "			74	76	72°	30·450	76° 64°					
10 "			74	76					3			
11 "			73	76								
12 "			74	76								
Mean.			74·54	77	73·66	30·472						
Sept. 4th.												
1 A. M.			74°	76°				E. ½ S.	4		b.	Steering to the southward and eastward.
2 "			74	76								
3 "			74	76	72°	30·450	75° 65°		3			
4 "			74	76						Cum.	c.	
5 "			71	77								
6 "			72	77								
7 "			75	77·5								
8 "			76	77·5							b.	
9 "			80	76	81°	30·500	75° 65°					No current.
10 "			81	77				E. N. E.				
11 "			78	76								
12 "	35° 51′	41° 34′	76	77								
1 P. M.			76	78				E. by S.				
2 "			77	79								
3 "			77	78	76°	30·380	77° 70°					
4 "			79	79								
5 "			78	78								
6 "			78	78								
7 "			74	76·5								
8 "			75	76						Cum.	b. c.	
9 "			75	77		30·450	78° 65°		4			
10 "			74	77								
11 "			74	76·5								
12 "			74	76·5								
Mean.			75·66	77·02	76·33	30·445						

U. S. SHIP VINCENNES.

FROM NORFOLK TO FUNCHAL, MADEIRA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 5th.												
1 A. M.			75°	76°				E. by S.	3	Cir. stra.	b.	Steering to the northward and eastward.
2 "			74	76								
3 "			74	77	71°	30·350	75° 65°	S.E.by E.				
4 "			74	77				E. S. E.				
5 "			74	77				S. E. ½ E.				
6 "			74	77								
7 "			74	77					2			
8 "			74	77				S. E.			b. c.	
9 "			77	77	80°	30·380	75° 64°					
10 "			78	78								
11 "			78	78								Passed a vessel; found no perceptible current.
12 "	36° 38′	40° 54′	78·5	78								
1 P. M.			81	78						Cirri.		
2 "			82	78				S. E[d].				
3 "			78	78	75°	30·350	78° 60°					
4 "			78	78								
5 "			76	77·5					1			
6 "												
7 "			75	77·5				E[d].	2			
8 "			76	77·5								
9 "			75	77	72·3	30·350						
10 "			74	77					3			
11 "			74	75								
12 "			74	76								
Mean.			78·14	77·21	74·62	30·357						
Sept. 6th.												
1 A. M.			75°	75°				E[d].	3	Cirri.	b.	Steering to the southward and eastward.
2 "			75	75								
3 "			75	75	74°	30·280	77° 65°					
4 "			75	75								
5 "			75	76							b. c.	
6 "			74	76								
7 "			75	76								
8 "			78	76								
9 "			78	76	77°	30·300	77° 63°	E. S. E.			b.	
10 "			78	76								
11 "			79	76						Cumuli.	c.	
12 "	37° 00′	40° 41′										
1 P. M.			79	77								
2 "			79	77·5					4			
3 "			78	77·5	82°	30·290	80° 69°					
4 "			77	78								
5 "			77	77								
6 "			76	77					3			
7 "			76	77				S. E.	4			Course east by south.
8 "			75	76								
9 "			74	76	72·3	30·290	78° 68°					
10 "			75	76								
11 "			74	76								
12 "			75	76				South.				
Mean.			76·17	76·21	76·32	30·290						

U. S. SHIP VINCENNES.

FROM NORFOLK TO FUNCHAL, MADEIRA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 7th.												
1 A. M.			74°	76°				S^{d}.	4	Cumuli.	c.	Course east by south.
2 "			73	76								
3 "			73	76	71°	30·150	78° 68°		5			
4 "			74	76								
5 "			74	77								
6 "			74	77					4		c. u.	
7 "			74	76								
8 "			75	77								Spoke a brig from Rio do Janeiro for Marseilles.
9 "			77	77	73°	30·250	70° 66°					
10 "			78	77								
11 "			78	77								
12 "	37° 13′	37° 21′	77	77					5			
1 P. M.			79	78							c. q. p.	
2 "			79	78								
3 "			79	78	74°	30·150	79° 65°					
4 "			77	78							c. q.	
5 "			77	78								
6 "			76	76						Cum. st.		
7 "			75	76								
8 "			75	76								
9 "			76	76		30·200	79° 74°		4		c.	
10 "			76	77								
11 "			75	77								
12 "			76	78								
Mean.			75·87	76·24	72·66	30·187						
Sept. 8th.												
1 A. M.			76°	77°				S^{d}.	4	Cumuli.	c. u. l.	
2 "			74	77							c. u.	Course east by south.
3 "			73	77	70°	30·100	80° 70°		6		c.q.r.l.	
4 "			73	76								
5 "			74	76					4		c. q.	
6 "			73	75							c.	
7 "			76	75								
8 "			76	76								
9 "			76	76	74°	30·200	78° 68°		3			
10 "			76	76						Cirri.	b. c.	
11 "			78	76				S^{d}. & W^{d}.				
12 "	37° 17′	34° 09′	78	76								
1 P. M.			80	76								
2 "			79	76								Current half knot per hour, setting S.W.
3 "			78	76	78°	30·200	78° 71°					
4 "			78	76								
5 "			77	76							b.	
6 "			76	76								A strong ripple to the S.W.
7 "			75	76				W^{d}.				
8 "			76	75								
9 "			76	76		30·290	80° 72°				b. w.	
10 "			74	76								
11 "			76	76								
12 "			76	76								
Mean.			76	76	74°	30·197						

U. S. SHIP VINCENNES.

FROM NORFOLK TO FUNCHAL, MADEIRA.

1838.	Lat. North.	Long West	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 9th.												
1 A. M.			75°	75°				W^{d}.	3	Cum. st.	c.	
2 "			75	75								Course east by south.
3 "			75	75	69°	30·250	77° 70°					
4 "			74	74								
5 "			74	74								
6 "			74	74								
7 "			74	74				S. W.				
8 "			75	74								
9 "			75	75	74°	30·300	78° 70°				b.	
10 "			77	75				S^{d}.				
11 "			77	76								
12 "	37° 18′	32° 03′	78	76					4			
1 P. M.			78	77								
2 "			78	77				S. by E.				
3 "			77	76	78°	30·300	80° 70°					
4 "			77	76								
5 "			75	75								
6 "			74	74								
7 "			74	74								
8 "			74	74								
9 "			73	74		30·380	77° 68°					
10 "			73	73					5			
11 "			73	73								
12 "			74	74								
Mean.			75·12	74·75	72·75	30·307						
Sept. 10.												
1 A. M.			73°	74°				S. by E.	5		b.	Course east by south.
2 "			73	74								
3 "			73	74	72°	30·350	76° 65°					
4 "			73	73								
5 "			73	73								
6 "			73	73								
7 "			74	73								
8 "			74	74					4			
9 "			75	74	73°	30·400	75° 65°					
10 "			78	74								
11 "			78	76								
12 "	37° 43′	28° 29′										
1 P. M.			79	75								Island of Pico in sight, bearing N. ¼ E.
2 "			79	75								
3 "			78	75	81°	30·400	78° 68°			Cirri.	b. c.	
4 "			75	75						Cir. stra.		
5 "			75	74								
6 "			74	73·5					4			
7 "			73·5	73								
8 "			74	74								
9 "			72	73	70°	30·410	80° 68°				c.	
10 "			72	73				S^{d}.				
11 "			72	73				S. by W.				
12 "												
Mean.			74·54	73·9	74	30·390						

U. S. SHIP VINCENNES.

FROM NORFOLK TO FUNCHAL, MADEIRA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 11.												
1 A. M.			72°	73°				S. by W.	4	Cirri.	c.	Steering to the southward and eastward.
2 "			73	74								
3 "			73	74	70°	30·350	75° 65°					
4 "			73	74								Island of St. Michael in sight, bearing E. S. E. Passed along the north side of St. Michael's Island.
5 "			73	74								
6 "			73	74					5			
7 "			73	74								
8 "			73·5	73·5								
9 "			74	75		30·400	78° 64°		7			
10 "			75	75								
11 "			76	75								
12 "	38° 00′	25° 45′	76	75							b. c.	
1 P. M.			77	76					3			
2 "			76	76						Cumuli in horizon, clear over head.		Found the current setting W. by N. ¾ knot per hour.
3 "			75	76	74°	30·380	75° 65°					
4 "			75	75								
5 "			74	75								
6 "			74	75								
7 "			73	74								
8 "			73	74								
9 "			72	74	70°	30·450	75° 60°					
10 "			72	74								
11 "			71	74						Cum. st.		
12 "			71	74								
Mean.			73·64	74·47	71·33	30·395						
Sept. 12.												Steering to the northward and eastward.
1 A. M.			72°	74°				E. S. E.	3	Cum. st.	b. c.	Island of St. Michael in sight.
2 "			72	74								
3 "			71	74	70°	30·400	74° 62°		4			A meteor seen, bearing north.
4 "			72	74								
5 "			72	74				E. by N.				Two meteors, bearing south.
6 "			72	74				E. ½ N.				
7 "			73	75				East.				
8 "			73	75					3		c. u.	Steering to the southward and westward.
9 "			74	75	70°	30·410	74° 60°					
10 "			74	75						Cumuli.		
11 "			76	75					2			
12 "	38° 16′	25° 10′	76	75								
1 P. M.			75	75				E. ½ N.				
2 "			75	75				E. by S.				
3 "			74	75	73°	30·450	74° 69°					
4 "			74	75					3		c. u. p.	
5 "			73	74								
6 "			73	74								Steering to the northward and eastward.
7 "			72	74					4	Cum. st.	c. q.	
8 "			72	74								
9 "			72	74	70°	30·450	75° 64°					
10 "			72	74				East.				
11 "			71	74								
12 "			71	74								
Mean.			72·95	74·41	70·75	30·427						

U. S. SHIP VINCENNES.

FROM NORFOLK TO FUNCHAL, MADEIRA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 13.												
1 A. M.			71°	74°				East.	3	Cum. st.	c.	Steering to the southward and eastward. Squalls from the land.
2 "			70	74								
3 "			70	74	70°	30·350	72° 55°					
4 "			71	74					4			
5 "			71	74							b. c.	
6 "			71	74								Island of St. Mary's bearing W. S. W., St. Michael's N. by W.
7 "			72	74					5			
8 "			73	74					4			
9 "			74	74	71	30·400	67° 52°	E. by N.				
10 "			75	74								
11 "			76	75					5			
12 "			76	75								
1 P. M.	37° 19′	24° 01′	72	75								
2 "			71	75						Cum.	c.	
3 "			71	75	70	30·320	72° 60°		3			
4 "			71	75								
5 "			72	74				East.				
6 "			71	74								
7 "			71	74								
8 "			71	74								
9 "			70	74	69	30·300	73° 63°					
10 "			70	74				E. by N.	2			
11 "			71	74								
12 "			71	74								
Mean.			71·75	74·25	70	30·342						
Sept. 14.												
1 A. M.			70°	74°				E. by N.	2	Cum. st.	b. c.	Course S. E. by S.
2 "			70	74								
3 "			70	74	69°	30·200	74° 55°					
4 "			70	74					3			
5 "			70	74								
6 "			70	74								
7 "			70	74				N. E.				
8 "			72	74					4		c.	
9 "			72	74	72	30·200	71° 55°					Current E. S. E., half knot per hour. Temperature of water at 105 fathoms, 60°.
10 "			75	74								
11 "			73	74						Cirro-st.		
12 "	36° 21′	22° 28′	69	74					3			
1 P. M.			76	75				N^{d}.				
2 "			76	75								
3 "			75	75	72	30·090	75° 58°					
4 "			73	75						Nimbus	c. u.	
5 "			73	75								
6 "			72	74								
7 "			71	74								
8 "			70	74				N. W^{d}.			o. u. r.	
9 "			70	74	70	30·090	74° 60°		2	Over-		
10 "			69	74					3	cast.		
11 "			69	74					4			
12 "			69	74								
Mean.			71·41	74·16	70·75	30·145						

U. S. SHIP VINCENNES.

FROM NORFOLK TO FUNCHAL, MADEIRA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 15.												
1 A. M.			70°	72°				N. W^{d}.	5	Cum. st.	c. q. p.	Course S. E. by S.
2 "			71	73								
3 "			71	72	70°	29·920	75° 65°					
4 "			70	72							q. r.	
5 "			68	75					6			
6 "			68	75								
7 "			68	74					5	Cirri &		
8 "			70	72						cum. st.	c. q.	
9 "			69	74	70	29·900	70° 60°					Passed an American brig steering N. W.
10 "			69	74								
11 "			69	74								
12 "	34° 53′	20° 09′	69	74								
1 P. M.			71	74							c.	
2 "			70	74				NWbyN.		Cirrus.		
3 "			71	75	70	29·950	75° 55°					
4 "			71	75								
5 "			71	75								
6 "			70	75					4			
7 "			70	74							b. c.	
8 "			69	74								
9 "			68	73		30·000	72° 54°					
10 "			68	73								
11 "			68	73								
12 "			68	73				N. by W.				
Mean.			69·45	73·7	70	29·942						
Sept. 16.												
1 A. M.			69°	73°				N. by W.	4	Clear.	b.	
2 "			69	73								Course S. E. by S.
3 "			70	74	68°	30·000	71° 50°		5	Cumuli.	b. c.	
4 "			70	74					4			
5 "			69	73								
6 "			70	73								
7 "			70	73								
8 "			70	73								Made the Island of
9 "			70	73		30·100	75° 55°					Madeira.
10 "			70	73								
11 "			71	73				N. N. W.		Cirri.		
12 "	32° 53′	17° 27′	72	73						Clear.	b.	
1 P. M.			75	73					3			
2 "			72	74								
3 "			74	74		30·100	74° 58°			Cumuli.	c.	
4 "			73	74								
5 "												
6 "											b. c.	
7 "												Came to anchor with
8 "												the squadron, in Fun-
9 "						30·180	72° 51°					chal Roads, in 34 fa-
10 "												thoms water.
11 "												
12 "												
Mean.			70·87	73·31	68	30·095						

U. S. SHIP VINCENNES.

FUNCHAL, MADEIRA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 17.												
1 A. M.								N^{d}.	3	Clear.	b.	
2 "												
3 "			71°	73°	70·5°							
4 "												
5 "												
6 "												
7 "												Shifted our berth to 22 fathoms.
8 "								N^{d}. & W^{d}.				
9 "			73	72	72	30·000	75° 58°			Cumuli.	b. c.	Clouds over the hills.
10 "												
11 "												
12 "									4			
1 P. M.												
2 "												
3 "			73							Cum. st.	c.	
4 "												
5 "									5			
6 "												
7 "												
8 "												
9 "			76	74	72·5	30·150			6			
10 "								W^{d}.			c. q. r.	
11 "											c. q.	
12 "								N^{d}. & W^{d}.	5			
Mean.			73·25	73	71·66	30·075						
Sept. 18.												
1 A. M.								N^{d}.	3	Nimbus	c.	Clouds hanging over the hills.
2 "								N^{d}. & E^{d}.	2			
3 "				72°	70°	30·100						
4 "												
5 "										Clear.	b.	
6 "												
7 "												
8 "								N. W^{d}.	3	Cum. st.	c.	
9 "			75°		72	30·150						
10 "												
11 "												
12 "												
1 P. M.												
2 "												
3 "			77	72	72	30·150			4			
4 "												
5 "												
6 "												
7 "										Nimbus	c. q.	
8 "												
9 "			73	73	69	30·250			5			
10 "								W^{d}.	4		c. q. r.	
11 "												
12 "											c.	
Mean.			75	72·33	70·75	30·162						

Funchal Roads.

Funchal Roads.

U. S. SHIP VINCENNES.

FUNCHAL, MADEIRA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 19.												
1 A. M.								N. W^{d}.	3	Clear.	b.	
2 "												
3 "			73°	72°	72·5°	30·300						
4 "								N^{d}.				
5 "												
6 "												
7 "												
8 "												
9 "			78	75	77·5	30·350		S^{d}. & W^{d}.				An English brig of war arrived.
10 "			80	75								
11 "			80	75						Cumu.	c.	
12 "			80	75								
1 P. M.			80	75								
2 "			80	75				W^{d}.				
3 "			80	75	77	30·100				Clear.	b.	
4 "			79	75								
5 "			78	74·5				E^{d}.	4			
6 "			77	74				N. E^{d}.				
7 "			76	74						Cumu.	c.	
8 "			75	74								
9 "			76	73	76	30·200						
10 "												
11 "												
12 "												
Mean.			78°	74·4	75·5	30·238						
Sept. 20.												
1 A. M.								N^{d}. & E^{d}.	3	Clear.	b.	
2 "												
3 "			77°	73°	75°	30·200						
4 "			79	73								
5 "												
6 "												
7 "								N^{d}.				
8 "												
9 "			79	74	77	30·250		W^{d}.				The Flying-Fish and Sea-Gull shifted their anchorages.
10 "												
11 "												
12 "												
1 P. M.												
2 "										Cirrus.	b.c.	
3 "			78	73	76	30·240						
4 "												
5 "												
6 "												
7 "										Cir.stra.		
8 "												
9 "			76	73	75	30·250			4			
10 "												
11 "												
12 "												
Mean.			77·8	73·2	75·75	30·235						

Funchal Roads.

Funchal Roads.

U. S. SHIP VINCENNES.

FUNCHAL, MADEIRA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 21.												
1 A. M.								W^{d}.	1	Cum. st.	c.	Nimbus over the hills.
2 "												
3 "						30·300						
4 "										Clear.	b.	
5 "			71°						2			
6 "			70									
7 "			72									
8 "			74					S. W^{d}.	3	Cum.	b. c.	
9 "			78		76°	30·300					c.	
10 "			78									
11 "			79									
12 "			85	78°				W^{d}.				
1 P. M.									2			
2 "												
3 "					74	30·280						
4 "	Funchal Roads.		83	76								
5 "								Calm.	0	Clear.	b.	
6 "												
7 "												
8 "			80	76								
9 "			74	74	72	30·280						
10 "			78					W^{d}.	1	Nimbus	c.	
11 "			74									
12 "			74									
Mean.			76·43	76	74	30·290						
Sept. 22.												
1 A. M.								Var.	1	Cum. st.	b. c.	
2 "												
3 "					70	30·200		Calm.	0	Clear.	b.	
4 "			71°	72°				E^{d}.	1			
5 "			72	72								
6 "			73	72					2			
7 "			74	74					1		c.	
8 "			74	74				S. W^{d}.	2	Nimbus	c. r.	
9 "						30·300						
10 "												
11 "												
12 "									3		c. p.	English packet arrived.
1 P. M.												
2 "												
3 "						30·180						
4 "	Funchal Roads.										c.	
5 "									2	Cum. st.		
6 "												
7 "												
8 "									1		b. c.	
9 "			74	73·3	72	30·200						
10 "			72	73								
11 "			71	72								
12 "												
Mean.			72·62	72·8	71	30·220						

U. S. SHIP VINCENNES.

FUNCHAL, MADEIRA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 23.												
1 A. M.			71°	72°				Calm.	0	Clear.	b.	
2 "			71	72								
3 "			71	72	72°	30·150						
4 "			70	72				S. W^{d}.	1			
5 "												
6 "			71	74					2			
7 "												
8 "			76	75								
9 "			80	75	79	30·200		N. W^{d}.				Cumulus on the hills.
10 "												
11 "												
12 "												
1 P. M.									1			
2 "								Var.				
3 "			76	74		30·180						
4 "												
5 "												
6 "			76	74								
7 "												
8 "			74	75								
9 "			74	75	70	30·220		S. W^{d}.				
10 "			74	74					2			
11 "			74	74								
12 "			75	74								
Mean.						30·187						
Sept. 24.												
1 A. M.								W^{d}.	2	Clear.	b.	Nimbus over the hills.
2 "			70°	74°								
3 "					67°	30·200						
4 "			69	74				N. W^{d}.	1			
5 "												
6 "			71	74							c.	
7 "												
8 "			76	75								
9 "			80	75	79	30·300			2			
10 "								W^{d}.				
11 "												
12 "										Cum.		
1 P. M.			75	76								
2 "			75	76				N. E^{d}.	3			Went to sea, the squadron in company.
3 "			74	74		30·250						
4 "			74	75								
5 "			73	74								
6 "			73	74								
7 "			71	74								
8 "			71	74					4			
9 "			71	74	70	30·250	75° 60°					
10 "			70	74				N^{d}.				
11 "			69	73·5								
12 "			69	73·5								
Mean.						30·250						

Funchal Roads.

Funchal Roads.

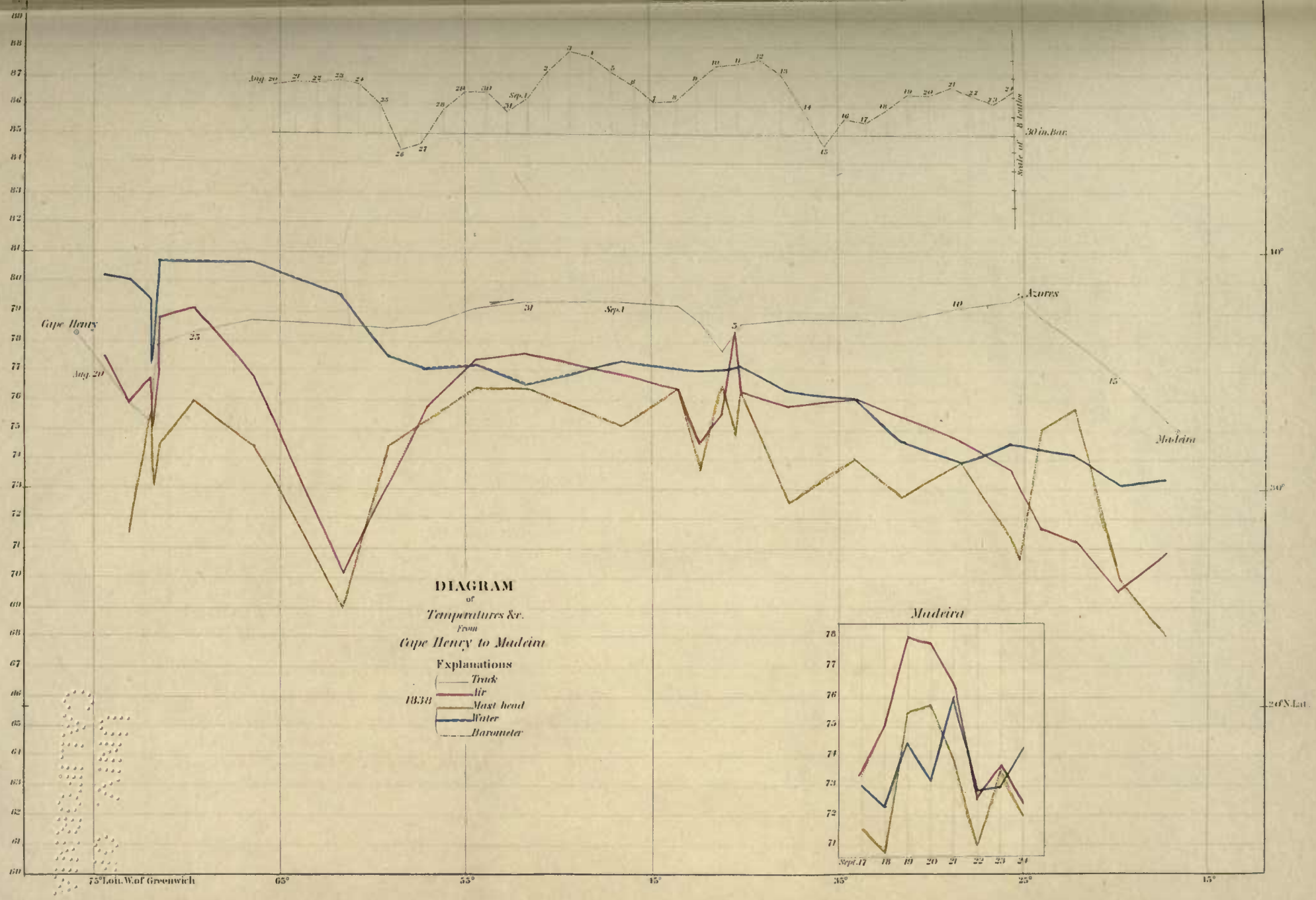


DIAGRAM
of
Temperatures &c.
From
Cape Henry to Madeira
Explanations
1838
Track
Air
Mast head
Water
Barometer
Cape Henry
Azores
Madeira
Madeira
Scale of 8 tenths
30 in. Bar.
75° Lon. W. of Greenwich
65°
55°
45°
35°
25°
15°
40°
30°
20° N. Lat.

U. S. SHIP VINCENNES.

FROM FUNCHAL TO PORTO PRAYA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 25.												
1 A. M.			71°	72°				N^{d}. & E^{d}.	4	Cum. st.	c.	Course S. S. W., squadron out of sight.
2 "			70	73								
3 "			69	73	69·5°	30·200	71° 55°					
4 "			69	72								
5 "			70	73					5	Clear.	b.	
6 "			71	74								
7 "			71	74								
8 "			72	74								
9 "			72	74	69°	30·200	71° 59°			Cumuli.	c.	
10 "			73	74					4			Peacock astern, reports that she was becalmed during the night.
11 "			73	74								
12 "	31° 09′	17° 58′	73	74								
1 P. M.			72	74								
2 "			72	74				N^{d}.				
3 "			72	74	70°	30·150	74° 58°					
4 "			72	74								
5 "			71	74								
6 "			70	74								
7 "			70	74								
8 "			70	74								
9 "			70	74	68°	30·200	76° 60°					
10 "			70	74								
11 "			70	74								
12 "			70	74								
Mean.			70·96	73·7	69·12	30·188						
Sept. 26.												
1 A. M.			71°	74°				N. W^{d}.	4	Cirri.	b.	Course S. S. W.
2 "			71	74								
3 "			71	74	68°	30·050	74° 60°					
4 "			71	74								
5 "			71	74							b. c.	
6 "			71	74								
7 "			72	74						Cumuli.		
8 "			72	74								
9 "			72	74	72°	30·180	75° 65°		3			
10 "			73	74						Cirri.		
11 "			74	74				N^{d}.				
12 "	28° 57′	19° 01′	74	74								
1 P. M.			76	74						Clear.	b.	
2 "			76	75					4			
3 "			76	75	72°	30·090	75° 62°		3			
4 "			76	75						Cumuli.	b. c.	
5 "			74	76								
6 "			74	76								
7 "			73	75								
8 "			73	74								
9 "			72	74	71°	30·200	77° 64°					
10 "			72	75								
11 "			71	75								
12 "			71	75								
Mean.			72·79	74·45	70·75	30·157						

U. S. SHIP VINCENNES.

FROM FUNCHAL TO PORTO PRAYA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 27.												
1 A. M.			72°	75°				Nd.	3	Cir.cum	b. c.	Course S. S. W.
2 "			72	75								
3 "			71	75	79°	30·100	75° 60°					
4 "			71	75								
5 "			71	74							c.	
6 "			71	75								
7 "			72	75								
8 "			73	75						Clear.	b.	
9 "			75	76	72	30·150	74° 64°			Cumuli.	c.	
10 "			75	76								
11 "			75	76								
12 "	27° 17′	19° 40′	75	76					4	Cirri.	b. c.	
1 P. M.			77	77					3			
2 "			76	77								
3 "			77	76	73	30·180	75° 68°					
4 "			76	76								
5 "			73	76								
6 "			72	74								
7 "			73	76								
8 "			72	76								
9 "			72	76	70	30·200	76° 60°					
10 "			72	76								
11 "			71	76								
12 "			70	76								
Mean.			73·08	75·62	73·5	30·158						
Sept. 28.												
1 A. M.			70°	75°				Nd.	3	Clear.	b.	Current N. E. by E. ½ knot per hour.
2 "			70	75								
3 "			71	75	70°	30·100	75° 60°					
4 "			72	75								Course S. S. W.
5 "			72	75								
6 "			72	75								
7 "			73	76					2			
8 "			74	77								
9 "			74	77	75	30·200	74° 64°					
10 "			76	76								
11 "			76	76					3			
12 "	25° 44′	20° 03′	76	76				Eastd.				
1 P. M.			75	77								
2 "			75	77								
3 "			75	77	74	30·180	76° 60°					
4 "			75	77					2			
5 "			75	77					3			
6 "			75	77								
7 "			74	77								
8 "			74	77						Cum. st.	c.	
9 "			74	76	72	30·200	75° 64°	N. Ed.				
10 "			74	76								
11 "			74	76								
12 "			74	76								
Mean.			73·75	76·14	72·75	30·170						

U. S. SHIP VINCENNES.

FROM FUNCHAL TO PORTO PRAYA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 29.												
1 A. M.			73°	76°				N. E^{d}.	3	Cirri.	b. c.	Course S. S. W.
2 "			73	76								
3 "			73	76	71°	30·180	75° 64°					
4 "			72	76								
5 "			72	76								
6 "			73	76								
7 "			73	76								
8 "			74	77								
9 "			74	77	71°	30·200	75° 65°					Water discoloured; sonnded with 140 fathoms; no bottom.
10 "			76	76					4			
11 "			76	77							b. c. v.	
12 "	24° 06′	20° 53′	76	77								
1 P. M.			75	77								
2 "			75	77								
3 "			75	77	75°	30·120	76° 64°	E. N. E.		Cir. st.		
4 "			78	77					3		c.	
5 "			78	77								
6 "			77	78					4			
7 "			74	77								
8 "			74	77								
9 "			73	77	72°	30·150	75° 64°			Cirri.		
10 "			73	77								
11 "			73	77								
12 "			72	77								
Mean.			74·25	76·68	72·25	30·150						
Sept. 30.												
1 A. M.			72°	77°				E. N. E.	4	Cirri.	c.	Course S. S. W.
2 "			72	77								
3 "			72	77	72°	30·150	77° 60°					
4 "			72	77								
5 "			73	77								
6 "			74	78								
7 "			74	78						Clear.	b.	
8 "			75	78								
9 "			76	79	74°	30·120	76° 60°				c.	
10 "			76	79						Cir. st.		
11 "			77	79								
12 "	21° 16′	21° 01′	78	79								
1 P. M.			75	79								
2 "			76	78					3			
3 "			76	78	74°	30·050	77° 65°				c. b.	Sounded with 156 fathoms, no bottom: temp. water 62°.
4 "			76	78					5			
5 "			75	78						Cirri.		
6 "			75	78								
7 "			75	78								
8 "			75	77					4			
9 "			76	77	73°	30·110	77° 62°					
10 "			74	78								
11 "			74	78								
12 "			74	78								
Mean.			74·66	77·91	73·25	30·107						

U. S. SHIP VINCENNES.

FROM FUNCHAL TO PORTO PRAYA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 1.												
1 A. M.			75°	78°				E. N. E.	4	Cirri.	b. c.	Course S. S. W.
2 "			75	78								
3 "			75	78	75°	30·020	75° 62°			Cumuli.		
4 "			75	78								
5 "												
6 "												Sounded with 160 fathoms; no bottom.
7 "												
8 "											b. v. c.	Water much discoloured; sounded with 360 fathoms, no bottom.
9 "			76	79		30·110	75° 64°		3			
10 "			77	79					4	Cirri.		
11 "			77	79								
12 "	19° 25′	20° 55′	77	79				N.E.byN.	3			Passing over the reported vicinity of Maria Rock and Bon Felix Shoal.
1 P. M.			78	80								
2 "			78	80								
3 "			77	80	75°	30·000	77° 62°			Cumuli.		
4 "			77	80							b. c.	Current N. by W. ½ knot per hour; pot visible at 2½ fathoms.
5 "			77	80								
6 "			77	80								
7 "			77	80								
8 "			77	80								
9 "			78	80	74°	30·030	73° 64°		4			
10 "			75	80							c.	
11 "			75	80								
12 "			75	80								
Mean.			76·45	79·40	74°	30·040						
Oct. 2.												
1 A. M.			75°	81°				N.E.byN.	4	Cirri.	c.	Steering to the S. W.
2 "			74	81								
3 "			74	81	74°	30·030	78° 65°					
4 "			73	81							o.	
5 "			75	81								
6 "			75	81								
7 "			76	81								
8 "			78	81							b. c.	Current N. E. by N. ½ knot per hour; pot visible at 10 fathoms.
9 "			80	83	74°	30·050	78° 62°		3	Cir. st.		
10 "			81	83								
11 "			83	83				N. N. E.				
12 "	17° 05′	20° 36′	78	82								
1 P. M.			79	82								
2 "			80	82							c.	
3 "			80	82	78°	30·030	80° 67°					
4 "			81	82								
5 "			80	83								
6 "			79	82								
7 "			77	82								
8 "			77	82								
9 "			78	82	76°	30·050	80° 70°					Sounded with 50 fathoms, no bottom.
10 "			78	82								
11 "			75	82								Current N. E. by N. ½ knot per hour.
12 "			75	82								
Mean.			77·54	81·83	75·5	30·040						

U. S. SHIP VINCENNES.

FROM FUNCHAL TO PORTO PRAYA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 3.												
1 A. M.			77°	82°				N. N. E.	4	Clear.	b.	Steering to the westward.
2 "			77	82								
3 "			77	82	73°	30·030	79° 65°					
4 "			77	82								
5 "			77	82								
6 "			77	82								
7 "			78	82						Cir. st.	b. c.	Current N. E. by N., ½ knot per hour.
8 "			79	82					3			
9 "			82	81	80°	30·100	80° 70°					
10 "			82	82								
11 "			81	83								
12 "	16° 26′	20° 39′	83	83					4			
1 P. M.			82	83				Nd.				Near the position of the Bonetta Shoal.
2 "			81	83						Clear.	b.	
3 "			79	83		30·010	81° 67°					
4 "			79	83					3			
5 "			79	82				N.E.byN.				
6 "			78	82								
7 "			77	82								
8 "			77	83								Sounded with 70 fathoms; no bottom.
9 "			78	83		30·120	80° 70°					
10 "			78	82								
11 "			78	82								
12 "			78	82								Sounded with 75 fathoms; no bottom.
Mean.			78·79	82·29	76·5	30·065						
Oct. 4.												
1 A. M.			77°	82°				N.E.byN.	3	Cum. st.	c.	
2 "			77	82								Sounded with 70 fathoms; no bottom.
3 "			77	82	76°	30·030	80° 60°					
4 "			77	82							b. w.	
5 "			76	82								Sounded with 65 fathoms; no bottom.
6 "			76	82							b.	
7 "			78	82								Current E. N. E., ½ knot per hour.
8 "			79	82								
9 "			80	82	87°	30·100	79° 67°			Clear.		Sounded with 50 fathoms; no bottom.
10 "			77	82								
11 "			81	82				N. E.				
12 "	16° 06′	21° 44′	79	82					2			
1 P. M.			79	83								
2 "			79	83								
3 "			79	82	81°	30·080	81° 69°					
4 "			79	83								Current N. by W. one knot per hour.
5 "			80	83					1			
6 "			79	82					2			Island of Bonavista in sight, bearing W. by N.
7 "			79	82								
8 "			78	82					3			
9 "			78	82	75°	30·080	81° 69°					
10 "			78	82								
11 "			78	82								
12 "			78	81								
Mean.			78·25	82·12	79·75	30·072						

U. S. SHIP VINCENNES.

FROM FUNCHAL TO PORTO PRAYA.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Masthead.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 5.												
1 A. M.			78°	81°				N. E.	3	Clear.	b.	Steering to the westward.
2 "			78	81								
3 "			77	81	76°	30·010	78° 67°					
4 "			77	81					2			
5 "			78	81								Islands of Mayo and St. Jago in sight to the westward. Sounded at 9·30 A. M. with 125 fathoms; no bottom.
6 "			78	81					3			
7 "			78	81								
8 "			78	81								
9 "			79	81	81°	30·090	80° 69°					
10 "			82	81					2			
11 "			82	82						Cir. st.	c.	
12 "	15° 13′	22° 49′	83	82								
1 P. M.			84	83								
2 "			83	82					3			
3 "			82	82	81°	30·080	82° 70°				c. m.	
4 "			81	82								
5 "			81	82				E. N. E.				
6 "			80	82								Current W. N. W., ¾ knot per hour.
7 "			79	81·5								
8 "			78	81								
9 "			78	81		30·100	82° 71°			Cum. st. & cir.	c.	Temp. water at 100 fathoms, 58°. Water very phosphoric. Several vessels seen during the day.
10 "			78	81								
11 "			79	81								
12 "			79	82								
Mean.			79·58	81·41	79·33	30·070						
Oct. 6.												
1 A. M.			79°	82°				N. E^{d}.	3	Cirri.	c. l.	
2 "			79	82								
3 "			79	82	76°	30·080	82° 70°					
4 "			79	82					4	Cir. st.	c. l.	St. Jago in sight.
5 "			79	82								
6 "			80	82								
7 "			80	82								
8 "			80	82					3		c.	
9 "			85	82	79°	30·120	82° 71°					
10 "			85	82								Anchored in Porto Praya Harbour, squadron in company.
11 "			86	82							b.	
12 "			86	82								
1 P. M.												
2 "			88	83							c. u.	
3 "	Harbour of Porto Praya.		82	81	74°	30·070		E. S. E.	5	Nimbi.	q. r.	
4 "			78	82				N. E^{d}.	4			
5 "			78	82								
6 "			78	82					3		c.	
7 "												
8 "			78	82					4			
9 "			78	81	76°	30·010	82° 71°					
10 "										Cirri.		At night the sea very brilliant with phosphoric light.
11 "												
12 "												
Mean.			80·9	81·94	76·25	30·070						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 7.												
1 A. M.								N. E^{d}.	3	Cirri.	c.	
2 "												
3 "			81°	80°	81°	30·100	81° 70°					
4 "	Porto Praya.											
5 "								E. N. E.	2			Went to sea.
6 "												
7 "									3			
8 "												
9 "			83	81	82°	30·120	81° 72°					
10 "												
11 "											c. u.	Spoke a Danish brig, 28 days from Rio de Janeiro.
12 "	14° 43′	23° 26′										
1 P. M.			86	82						Nimbi.		
2 "			84	82				N. E.				
3 "			82	82	77°	30·090			5		q. r. t. l.	Rain ·6 in.
4 "			79	82								Course S. S. W.
5 "			78	82								
6 "			77	81				S^{d}. & E^{d}.			q. v. t.	
7 "			76	81								
8 "			76	81					4			
9 "			79	81	77°	30·110	80° 70°				c.	
10 "			79	82								
11 "			79	82								
12 "			79	82								
Mean.			79·14	81·5	79·25	30·105						
Oct. 8.												
1 A. M.			79°	82°				S^{d}. & E^{d}.	3	Cumuli.	c.	Course S. S. W.
2 "			79	82								
3 "			80	82	78°	30·080	82° 70°					
4 "			80	82								
5 "			81	82				E^{d}.				
6 "			82	82						Clear.	b.	
7 "			83	82					4			
8 "			83	82								
9 "			84	83	73°	30·120	82° 72°		3			
10 "			84	83								
11 "			84	83								
12 "	12° 32′	23° 44′	83	83				E. N. E.				
1 P. M.			84	84					1			
2 "			84	84						Clear.		
3 "			84	84		30·050	84° 71°					Spoke English ship Crusader, 75 days from Bombay.
4 "			84	84					2			
5 "			84	84				E. S. E.				
6 "			81	82								
7 "			80	82								
8 "			80	82					3			
9 "			80	82	79°	30·100	84° 72°					
10 "			80	82								
11 "			80	82								
12 "			80	82								
Mean.			81·79	83·6	76·66	30·087						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 9.												
1 A. M.			80°	82°				E. by S.	3	Cum. st.	c.	Steering for Patty's Overfalls.
2 "			79	82								
3 "			79	82	78°	30·020	82° 70°				c. l.	
4 "			79	82								
5 "			80	83								
6 "			81	83							c.	
7 "			81	83						Clear.	b.	
8 "			81	83				S.E. by S.				
9 "			84	83	87°	30·120	82° 72°			Cum. st.	c.	
10 "			84	83					4		q.	
11 "			84	83					3		c.	
12 "	11° 18′	24° 21′	83	83					1		c. m.	
1 P. M.			87	84				Calm.	0	Nimbi.		Current N. E. by E., ½ knot per hour.
2 "			87	84								
3 "			89	84		30·020	89° 74°					
4 "												
5 "			85	84				S. W.	1			
6 "			83	83								
7 "			82	83								
8 "			82	83				S. by E.				
9 "			82	83	81°	30·080	84° 72°	Calm.	0			
10 "			81	83								Rain showers passing near the ship.
11 "			80	83								
12 "			79	83								
Mean.			82·26	83	82°	30·060						
Oct. 10.												
1 A. M.			79°	82°				Calm.	0	Cum. & nimbi.	c. u.	
2 "												
3 "					77°	30·100	82° 72°					Rain showers passing near.
4 "												
5 "			80	83							c. m.	
6 "			81	83								Current S. E. ½ E., ½ knot per hour.
7 "			81	83								
8 "			82	83								
9 "			85	84	82°	30·100	82° 72°	N. E[d].	1	Clear.	b.	
10 "			82	84								
11 "			82	84								
12 "	11° 11′	24° 24′	82	84								
1 P. M.			82	84								Current S. E., ½ knot per hour; pot visible at 15 fathoms.
2 "			82	84				N. E.	2			
3 "			82	84	81°	30·020	83° 73°			Cumuli.	c. m.	
4 "			83	84								
5 "			83	84								
6 "			81	84								
7 "			81	84								
8 "			81	84								
9 "			82	83	82°	30·100	83° 72°					
10 "			82	83								
11 "			82	83								Lost the N. E. trades.
12 "			82	83								
Mean.			81·75	83·66	80·5	30·080						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 11.												
1 A. M.			82°	83°				N. E.	3	Cum. & nimbi.	c. l.	Steering to the S. S. W.
2 "			81	83								
3 "			79	82	76°	30·090	82° 70°				c. m.	
4 "			80	82								
5 "			80	83								
6 "			80	83								
7 "			81	83				E. by N.	4	Clear.		
8 "			83	83								
9 "			84	83	82°	30·100	83° 72°					
10 "												
11 "												
12 "	9° 46′	24° 22′										
1 P. M.			83	84					3			Current W. S. W., ½ knot per hour; pot visible at 15 fathoms; passed through a rip.
2 "			83	84				E. by S.				
3 "			83	84	83°	30·050	83° 72°					
4 "			82	84					2			
5 "			81	84				S. S. E.				
6 "			80	84				S. E.	1			
7 "			82	84								
8 "			82	84				Calm.	0	Cum. &		
9 "			80	83	78°	30·100	83° 72°	W^d.	1	nimbi.	c. l. m.	
10 "			80	83				Calm.	0			
11 "			80	83								
12 "			80	83								
Mean.			81·23	83·28	79·75	30·085						
Oct. 12.											c. m.	
1 A. M.			80°	83°				Calm.	0	Cum. st.	c. l.	Steering to the S. W.
2 "			80	83								
3 "			80	83	83°	30·080	83° 73°					
4 "			80	83				E. by S.	1	Nimbi.		
5 "			80	82					2			
6 "			80	82								
7 "			82	83								
8 "			84	83				East.		Clear.	b. m.	
9 "			84	84	78°	30·080	83° 71°					
10 "			84	84					1			
11 "			84	84								
12 "	9° 24′	24° 23′	84	84								
1 P. M.			83	85				S. E^d.				
2 "			82	85						Cum. st.	c. m.	Current E. N. E., ½ knot per hour; pot visible at 14 fathoms.
3 "			82	85	83°	30·010	84° 70°					
4 "			82	85				E^d.				
5 "			82	85								
6 "			81	85				Calm.	0			
7 "			81	84								
8 "			81	84								
9 "			80	84	78°	30·090	83° 72°	S. S. W.	1	Nimbi.	c. l.	
10 "			80	84								
11 "			79	83								
12 "			79	83								
Mean.			81·41	83·75	80·5	30·065						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 13.												
1 A. M.			79°	83°				S.W.byS.	1	Nimbi.	c. u.	
2 "			80	83								
3 "			78	83	78°	30·100					r.	Rain ·5 in.
4 "			77	82				Calm.	0		c.	
5 "			79	83				Var.	1	Clear.	b. m.	
6 "			79	83								
7 "			82	83				Calm.	0			Steering S. W.
8 "			82	83								
9 "			83	83		30·120	84° 68°					
10 "			83	83						Nimbi.	c.	
11 "			84	84				N^{d}.	1			Current S. E. by E., ½ knot per hour; pot
12 "	9° 21′	24° 11′	83	84								visible at 20 fathoms.
1 P. M.			83	85							c. p.	
2 "			81	85								
3 "			83	85	86°	30·020	84° 70°			Clear.	b. c.	
4 "			82	85								
5 "			84	85				N. N. E.				Current S. E. by S., ⅜
6 "			81	85						Nimbi.	c.	knot per hour; pot
7 "			80	84								visible at 15 fathoms.
8 "			80	83					2		c. u.	
9 "			80	83	77°	30·050	83° 70°		3		u. q. m.	Rain ·5 in.
10 "			80	83					1			
11 "			80	83							c. r. l.	A bright meteor to the
12 "			80	83								southward.
Mean.			80·95	83·58	80·33	30·072						
Oct. 14.												
1 A. M.			80°	83°				Var.	1	Nimbi.	c. l.	Steering S. W.
2 "			80	83				Calm.	0			Meteor bearing N. W.
3 "			80	83	79°	30·000	83° 75°	S. E^{d}.	1			
4 "			80	83								A meteor to the east-
5 "			80	83								ward.
6 "			80	83								Two vessels in sight.
7 "			80	83						Clear.	b. m.	
8 "			82	83								
9 "			86	84	88°	30·050	83° 73°					
10 "			85	84								
11 "			84	84								
12 "	8° 39′	24° 00′	84	86								
1 P. M.			86	86				Calm.	0	Cum. &	c. m.	
2 "			86	86						cum. st.		
3 "			86	86	85°	29·980	84° 70°					
4 "			87	86								
5 "			84	85				E^{d}.	1			
6 "			83	84					2			A ship in sight.
7 "			82	84				S^{d}. & E^{d}.				
8 "			82	84						Clear.	b. l.	
9 "			81	84	80°	30·010	82° 70°					
10 "			81	84								
11 "			81	84								
12 "			81	84								
Mean.			82·54	84·2	83	30·010						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 15.												
1 A. M.			80°	82°				S. Ed.	1	Strati	c. l.	Steering to the southward.
2 "			79	82						Clear.		
3 "			79	83	78°	29·950	83°70°					
4 "			79	83				Calm.	0			
5 "			79	83						Nimbi.	c. p.	
6 "			80	83				S. W.	1			Spoke the ship Santa Maria, 38 days from Gibraltar, for Rio de Janeiro.
7 "			81	83					2			
8 "			81	83							p.	
9 "			83	84	78°	30·100	81°68°					
10 "			83	84								
11 "			83	84								
12 "	8° 08′	23° 40′	77	83				N.E.byE.	3			
1 P. M.			78	83								
2 "			80	83							c. r.	
3 "			80	83		30·020	Rain.		1			
4 "			80	83				Calm.	0			
5 "			80	83				Var.	1			
6 "			77	83				S. S. W.				Rain ·9 in.
7 "			75	83								
8 "			75	82					2			
9 "			76	82	74°	30·010		S.W.byS.		Stratus.		A long swell from the eastward.
10 "			77	82					3		c.	
11 "			77	82				S. S. W.				
12 "			78	82				S. by W.				
Mean.			79·04	82·83	76·66	30·020						
Oct. 16.												
1 A. M.			79°	83°				S. by W.	3	Cumuli.	c.	Steering to the southward and eastward.
2 "			79	83								
3 "			79	83	76°	30·000	80°70°					
4 "			79	82								
5 "			79	82								
6 "			79	82								
7 "			79	82				S. S. W.				
8 "			79	82				S. by W.				
9 "			81	83	80°	30·100	79° 69°	S. S. W.				
10 "			81	83						Nimbus	c. r.	Rain ·5 in.
11 "			81	83								
12 "	7° 20′	22° 33′	81	83					4	Cumuli.		
1 P. M.			82	83				S. by W.			c.	
2 "			82	83				S. S. W.				
3 "			82	83	81°	30·050	81°70°					
4 "			81	82								
5 "			80	83				S. W.				
6 "			80	83				S. S. W.		Cirri.	c. m.	
7 "			80	83								
8 "			80	83					3		c.	
9 "			80	83	78°	30·150	81°70°					
10 "			79	82								
11 "			79	82								
12 "			79	82				S. by W.				
Mean.			80	82·62	78·75	30·075						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 17.												
1 A. M.			79°	82°				S. S. W.	3	Cirri.	c.	
2 "			80	82								
3 "			80	82	78°	30·050	80° 65°		2			
4 "			80	82								
5 "			80	82					3			
6 "			80	82					2		o.	
7 "			80	82								
8 "			80	82								
9 "			80	82	79°	30·180	80° 70°			Cumuli.	o. u.	
10 "			80	82							d.	
11 "			80	82								Rain ·6 in.
12 "	6° 36′	20° 43′	82	83				N. E.	5		o.	
1 P. M.			75	83					3		o. m. r.	
2 "			76	82								Rain ·75 in.
3 "			76	82	73°	30·010						Spoke barque Narwhal, for London, 70
4 "			77	83								
5 "			77	83					1		c. u.	days from New Zealand.
6 "			77	82								
7 "			77	82				Calm.	0	Cumuli		Current S. by E., ½
8 "			77	82						about	c.	knot per hour; pot
9 "			77	82	76°	30·050	79° 70°			the ho-	b.	visible at 15 fa-
10 "			77	82						rizon.		thoms.
11 "			77	82								Saw several meteors;
12 "			76	82								stars very brilliant.
Mean.			78·75	82·16	76·5	30·072						
Oct. 18.												
1 A. M.			77°	82°				Calm.	0	Clear.	b.	Becalmed.
2 "			77	82								
3 "			79	83	76°	30·020	79° 70°					
4 "			79	83								
5 "			79	83								
6 "			79	83								Current S. W. by S.,
7 "			82	83								½ knot per hour; pot
8 "			83	83								seen at 20 fathoms.
9 "			83	83	78°	30·050	80° 73°					
10 "			83	83								Vessel in sight.
11 "			83	84								
12 "	6° 48′	20° 35′	84	84								
1 P. M.			84	84								
2 "			84	84								
3 "			83	84	89°	30·000	82° 71°			Cumuli.	c.	
4 "			83	84								
5 "			84	85								
6 "			83	85								Current S. W. by S.,
7 "			83	85							b. c.	½ knot per hour;
8 "			83	85				S. W.	1			pot visible at 19 fa-
9 "			83	85	78°	30·050	81° 70°		2			thoms.
10 "			80	84								
11 "			80	84					1			
12 "			80	84								
Mean.			81·50	83·7	80·25	30·030						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 19.												
1 A. M.			80°	83°				Calm.	0	Nimbi.	q. r.	Steering to the S. E.
2 "			80	83				S. by W.	1			Rain ·6 in.
3 "			80	83	75°	30·000	80° 70°			Cumuli.	c.	
4 "			79	82								
5 "			77	83				S. W.				
6 "			77	83								
7 "			77	83							c. u.	
8 "			78	83								
9 "			82	82		30·100	80° 70°					
10 "			83	83				Calm.	0		r.	Rain ·18 in.
11 "			84	82				South.	1			
12 "	6° 36′	20° 45′	83	82					2		c.	
1 P. M.			78	82				S. ½ E.	3	Nimbi.		
2 "			78	82								
3 "			78	82	77°	30·000	79° 70°	S. by W.				
4 "			78	82				S. ½ E.				
5 "			79	82								
6 "			79	82								
7 "			78	82							c. d.	
8 "			78	82								
9 "			78	81	74°	30·080	81° 71°			Cum. st.		
10 "			78	81				S. S. W.			p.	
11 "			78	81				South.				
12 "			78	81				S. S. W.				
Mean.			78·66	82·16	75·33	30·045						
Oct. 20.												
1 A. M.			78°	80°				S. by W.	3	Cum. st.	c. l.	Steering to the south.
2 "			78	80								
3 "			78	80	77°	30·000	80° 70°					
4 "			78	80						Nimbi.	p.	
5 "			79	80								
6 "			79	82				South.				Steering to the S. W.
7 "			79	82					2			Rain ·36 in.
8 "			79	81					3			
9 "			81	82	83°	30·080	82° 73°			Cum. &		
10 "			81	82				S. S. E.		nimbi.		Current east, ½ knot per hour; pot visible at 10 fathoms.
11 "			82	82								
12 "	6° 29′	21° 35′										
1 P. M.			78	82					3		c.	
2 "			78	82				S. E.				
3 "			79	82		29·980	79·5 72°					
4 "			79	82								
5 "			78	82					2			
6 "			78	82				Var.	1			
7 "			78	82								
8 "			78	82								
9 "			78	82	77°	30·050	79° 73°	S. E.	2		q. p.	
10 "			78	82								
11 "			78	82								
12 "			78	82								Rain ·2 in.
Mean.			78·66	81·45	79	30·027						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 21.												
1 A. M.			78°	81°				S. E.	3	Cum. st.	c.	Steering to the S. W.
2 "			78	81								
3 "			79	82	76°	29·950	79° 74°					
4 "			79	81								
5 "			79	81							c. q. r.	
6 "			78	81								Rain ·5 in.
7 "			79	82						Cumuli.	c.	
8 "			79	81								
9 "			81	82	86°	30·050	81° 73°		4			
10 "			82	82					3			
11 "			82	82								
12 "	5° 00′	22° 32′	82	82								
1 P. M.			80	82								
2 "			80	82				S. S. E.				Got the S. E. trades.
3 "			83	84	87°	30·000	81·5 75°					
4 "			82	82								
5 "			81	82				S. E. ½ S.	4			
6 "			80	82					3			
7 "			80	82						Nimbi.	q. p.	
8 "			79	81								
9 "			79	81	75°	30·030	81° 74°				o.	
10 "			79	81				S. S. E.				
11 "			79	81							q. p.	
12 "			79	81								Rain 1 in.
Mean.			79·83	81·62	81	30·007						
Oct. 22.												
1 A. M.			78°	81°				S. E.	3	Nimbi.	p.	Steering for Warley's Shoal.
2 "			77	81								
3 "			77	81	76°	29·980	81° 74°					Rain ·15 in.
4 "			77	81					2		q. p.	
5 "			76	82					1		r. q.	
6 "			76	82				Calm.	0			Well-defined double rainbow.
7 "			77	83								
8 "			79	82				S. by E.	3			Rain 1·65 in.
9 "			80	82	78°	30·080	80° 75°	S. E. by S.			c.	Rain ·5 in.; temp. 68°.
10 "			80	81				S. E.		Cum. in	b.	
11 "			83	82				S. E. by S.		horizon.		
12 "	5° 54′	21° 40′	83	82							c. p.	
1 P. M.			81	82							c.	Saw a barque standing to the southward.
2 "			81	82						Cum. st.		
3 "			81	82	76°	29·970	81° 74°					
4 "			81	82								
5 "			81	82							c. u.	Current S. E. by S., ½ knot per hour.
6 "			81	82								
7 "			79	82								
8 "			78	82								
9 "			77	81	76°	30·080	80° 75°					
10 "			77	81							c. u. r.	
11 "			77	81								
12 "			77	81								
Mean.			78·91	81·7	76·5	30·027						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 23.												
1 A. M.			76°	82°				S^{d}. & W^{d}.	3	Nimbi.	c. u.	Steering to the S. E.
2 "			76	82							r.	Rain ·3 in.
3 "			77	82	78°	30·000	80° 75°				c. u.	
4 "			79	82								
5 "			78	82							r.	
6 "			78	82								
7 "			78	82								Rain ·19 in.
8 "			78	82							c. m.	
9 "			79	81	75°	30·080	79° 75°					
10 "			79	81						Cum.		
11 "			81	82				S. S. W.				
12 "			81	82								
1 P. M.	5° 35′	20° 14′	79	81								
2 "			79	81					4			Current S.W., ¾ knot
3 "			80	81	78°	29·980	81° 75°					per hour.
4 "			79	81								
5 "			79	81								
6 "			78	82				S. ½ W.				
7 "			78	82						Cum. st.		
8 "			78	81								
9 "			78	81	76°	30·050	79° 74°					
10 "			78	81								
11 "			78	81								
12 "			78	81								
Mean.			78·33	81·5	76·75	30·027						
Oct. 24.												
1 A. M.			78°	81°				S. ½ W.	3	Cum. st.	c. m.	Steering to the west-
2 "			78	81								ward.
3 "			78	81	76°	30·000	78° 70°					
4 "			78	81								
5 "			78	81				S. S. W.				
6 "			78	81								
7 "			79	81								
8 "			80	81								
9 "			80	81	86°	30·080	79° 70°					Saw a vessel standing
10 "			80	81					4			N.E.
11 "			81	82					3			
12 "	5° 13′	21° 24′	81	82								
1 P. M.			80	82								
2 "			81	82						Cirro-st.		
3 "			80	82	86°	30·000	79° 69°					Saw a vessel.
4 "			80	82				S. by E.				
5 "			80	82								No perceptible cur-
6 "			80	82								rent.
7 "			80	82				S. by E.		Clear.	b.	
8 "			80	82								
9 "			79	81	75°	30·090	83° 73°					
10 "			78	81								
11 "			78	81				S. E.				
12 "			78	81								
Mean.			79·29	81·42	80·75	30·042						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 25.												
1 A. M.			78°	81°				S. E.	3	Clear.	b.	
2 "			79	80								
3 "			78	80	76°	30·000	80° 70°	S.E. by S.				Magellan clouds visible.
4 "			78	80								
5 "			78	80				S.E.by E.	6			
6 "			78	80								
7 "			80	81					5			
8 "			80	82						Cumuli.	b. c.	Seeking for Warley's
9 "			80	81	76°	30·050	80° 70°	S. S. E.				Shoal.
10 "			80	81								
11 "			80	81								
12 "	4° 49′	21° 40′	80	81								
1 P. M.			81	81								
2 "			80	81								Strange sail in sight.
3 "			80	81	86°	30·000	83° 70°		4			
4 "			79	81				S. E^{t}.				
5 "			79	81								
6 "			79	81					3			
7 "			78	80								
8 "			78	80								
9 "			78	80	75°	30·050	82° 70°		2	Clear.	b.	
10 "			78	80								
11 "			78	80								
12 "			78	80								
Mean.			78·94	80·58	78·25	30·025						
Oct. 26.												
1 A. M.			77°	81°				S. E^{t}.	2	Clear.	b.	Looking for Warley's Shoal.
2 "			77	81								
3 "			77	81	76°	30·000	80° 65°					
4 "			77	81								Cumuli in horizon.
5 "			77	81								
6 "			77	81								
7 "			79	81								
8 "			79	81					3			
9 "			80	81		30·080	80° 65°					
10 "			81	81								
11 "			81	81								
12 "	4° 03′	21° 58′	81	81								
1 P. M.			80	81				South.			b. c.	
2 "			80	81						Cum. st.		Have seen no sign of
3 "			80	80	80°	30·000	81° 66°	S. by E.				Warley's Shoal.
4 "			79	80								
5 "			79	80								
6 "			78	81								
7 "			78	81								
8 "			78	81								
9 "			78	81	76°	30·080	79° 69°					
10 "			78	81								
11 "			77	80								
12 "			77	80								
Mean.			78·54	80·79	77·33	30·040						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 27.												
1 A. M.			77°	80°				S. by E.	2	Clear.	b.	Steering E. by S. for French Shoal.
2 "			76	80								
3 "			76	80	74°	29·980	80° 70°					
4 "			76	80								
5 "			77	80				South.	1			
6 "			77	80								
7 "			77	80					2			
8 "			78	80								
9 "			79	80		30·030	81° 65°			Cirri.	b. c.	
10 "			81	81								Current N. W ¼ W., ¼ knot per hour.
11 "			81	81								
12 "	4° 07′	20° 42′	81	81								
1 P. M.			82	83								
2 "			82	83						Cum. st.	c.	Nothing seen of French Shoal.
3 "			81	83	68°	29·980	82° 71°					
4 "			79	82								
5 "			79	82								
6 "			79	82					1			
7 "			79	82								
8 "			79	82						Nimbi.	b. c.	Clear overhead, cumulus in horizon.
9 "			78	80	76°	30·000	80° 74°	Calm.	0		c. u.	
10 "			78	80								
11 "			78	80								
12 "			78	80							p.	
Mean.			78·66	80·91	72·66	29·997						
Oct. 28.												
1 A. M.			78°	80°				S. W^{d}.	1	Nimbi.	c. p.	Steering to the S.S.E.
2 "			78	80								
3 "			78	80	76°	29·950	81° 75°					
4 "			78	80					2			Rain ·2 in.
5 "			77	80								
6 "			77	80								
7 "			77	81					3			
8 "			77	81								
9 "			78	81	76°	30·050	79° 76°		4			Rain ·12 in.
10 "			79	81							c. d.	
11 "			79	81						Cum. st.	c.	
12 "	3° 54′	19° 20′	78	80								
1 P. M.												
2 "												
3 "					76°	29·950	79° 74°					
4 "												
5 "												
6 "												
7 "												
8 "												
9 "					77°	30·040	80° 70°			Cir. stra.		Halo round the moon, radius 23° 22′.
10 "												
11 "												
12 "												
Mean.			77·83	80·41	76·25	29·997						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 29.												
1 A. M.										Clear.	b.	Steering to the eastward.
2 "												
3 "					75°	29·950	81° 75°					
4 "												
5 "												
6 "												
7 "												
8 "										Cumuli.	c.	
9 "						30·080	81° 76°					
10 "												Saw a vessel.
11 "												
12 "	3° 40′	17° 09′										
1 P. M.			81°	82°				S. S. E.	3			
2 "			82	82						Clear.	b.	No perceptible current.
3 "			82	82	86°	29·980	81° 72°	S. by E.				
4 "			82	82								
5 "			81	82								
6 "			80	81					2			
7 "			79	81				South.		cir.cum.		The upper strata of clouds (cirrus) flying fast from the S. E.
8 "			79	81								
9 "			77	81	76°	30·080	80° 70°					
10 "			77	81								
11 "			77	81								
12 "			77	81								
Mean.			79·5	81·41	79	30·022						
Oct. 30.												
1 A. M.			78°	80°				S. ½ W.	2	Clear.	b.	Steering to the eastward.
2 "			78	80								
3 "			78	80	76°	30·000	80° 70°					
4 "			77	80								
5 "			77	80					3			
6 "			77	80						Nimbi.	c. u.	
7 "			77	80								
8 "			77	80							q. r.	Rain ·12 in.
9 "			79	81	77°	30·080		S. E^{d}.				
10 "			79	81					2		p.	
11 "			78	81								
12 "	3° 43′	16° 03′	78	81							c.	Many tropical birds in sight.
1 P. M.			79	81								
2 "			79	81								
3 "			80	81	76°	29·950	80° 70°			Cum. st.	c.	Cirrus flying rapidly from E. S. E.
4 "			80	81								
5 "			77	81				S. by W.	1			
6 "			77	81								
7 "			77	81								
8 "			77	79				South.				
9 "			77	79	75°	30·050	80° 72°					
10 "			78	80								
11 "			77	80								
12 "			77	80								
Mean.			77·83	80·37	76	30·020						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 31.												
1 A. M.			77°	80°				South.	2	Cirri.	c. b.	Steering to the south-eastward.
2 "			77	80								
3 "			77	80	76°	29·950	80° 70°					
4 "			77	80						Nimbi.	c. p.	
5 "			77	80								
6 "			77	80								
7 "			77	80					3		c.	
8 "			78	80								
9 "			79	81	80°	30·080	80° 73°					
10 "			80	81							c. d.	
11 "			81	81								
12 "	3° 55′	15° 59′	81	81								
1 P. M.			79	81				S. S. E.				
2 "			79	81				S.		Clear.	b.	
3 "			79	81	78°	29·950	80° 72°					
4 "			80	81								
5 "			80	81								
6 "			79	81								
7 "			79	81				S. E^{d}.				Steering to the south-westward.
8 "			79	81								
9 "			78	80	78°	30·050	80° 70°					
10 "			77	80								
11 "			77	80						Cumuli.	c.	
12 "			77	80								
Mean.			78·37	80·5	78	30·007						
Nov. 1.												Steering to the eastward.
1 A. M.			77°	81°				S. E^{d}.	3	Cumuli.	c.	
2 "			77	81							q. r.	Rain ·06 in.
3 "			77	81	76°	29·950	80° 75°				c. u.	
4 "			77	81				South.	4			
5 "			77	81								
6 "			77	81							d.	
7 "			78	81				S. by E.				
8 "			78	80							c.	
9 "			79	80	78°	30·080	80° 73°					
10 "			80	80						Clear.	b.	
11 "			80	80				S. var. to				
12 "	3° 03′	15° 38′	81	80				the W.				
1 P. M.			80	80						Cumuli.	c.	
2 "			80	80								
3 "			80	80	80°	29·980	82° 70°					
4 "			79	80								
5 "			78	80								
6 "			78	80								
7 "			77	80					3			
8 "			77	81					4			
9 "			77	79	76°	30·090	80° 73°	S. by W.				
10 "			77	79						Cum. st.		
11 "			76	79				S. S. W.				
12 "			76	79				S. by W.				
Mean.			78·04	80·16	77·5	30·025						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 2.												
1 A. M.			77°	79°				S. W^{d}.	3	Cum. st.	c.	Steering to the eastward.
2 "			77	80								
3 "			76	80	75°	30·030	79° 70°					
4 "			76	80								
5 "			76	80								
6 "			76	80								
7 "			77	80								
8 "			77	80								
9 "			79	80	76°	30·120	78° 70°					
10 "			79	80					4		b. c.	
11 "			79	80					3			
12 "	2° 51′	13° 51′	79	80				S. by W.				
1 P. M.			79	79						Cir. stra.	c.	
2 "			77	79								
3 "			77	79	76°	30·030	78° 72°					
4 "			76	79								
5 "			76	79				South.		Clear.	b.	
6 "			76	79				S. E^{d}.				
7 "			75	79								
8 "			75	79								
9 "			76	78	75°	30·100	77° 70°			Cirri.	b. c.	
10 "			75	78								
11 "												
12 "												
Mean.			76·81	79·4	75·5	30·070						
Nov. 3.												
1 A. M.			75°	77°				S. E^{d}.	3	Cum. & Cir.	c.	Steering to the westward.
2 "			75	77								
3 "			74	77	74°	30·000	75° 68°					
4 "			75	78								
5 "			76	78				S. ½ W.				
6 "			77	78								
7 "			77	78				South.				
8 "			77	78						Cir. stra.		Cirrus flying from the E. S. E.
9 "			79	78	77°	30·050	78° 72°	S. S. E.			o.	
10 "			77	79								
11 "			77	79				S. by E.				
12 "	1° 58′	15° 14′	78	79				S. S. E.				
1 P. M.			77	77								
2 "			78	77							c.	
3 "			76	78	76°	29·950	78° 70°					
4 "			76	78					4	Clear.	b.	
5 "			76	78								
6 "			76	78								
7 "			75	78								
8 "			75	78					3	Cir. stra.		
9 "			76	78	76°	30·040	77° 70°					
10 "			76	78								
11 "			76	78								
12 "			76	78								
Mean.			76·25	77·91	75·75	30·010						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 4.												
1 A. M.			75°	78°				S. by E.	3	Clear.	b.	Steering to the southward and westward.
2 "			75	77								
3 "			75	77	74°	29·980	77° 70°					
4 "			74	77								
5 "			74	79								
6 "			75	78								
7 "			75	78								
8 "			76	78								
9 "			78	78	78°	30·020	78° 69°		4			
10 "			78	78								
11 "			78	78				South.			b.	
12 "	0° 23′	16° 37′	78	78								
1 P. M.			76	77								
2 "			76	76								
3 "			75	77	75°	29·980	77° 68°					
4 "			75	77								
5 "			75	77					3			Hazy about horizon.
6 "			75	77				S. E^{d}.			b. m.	Crossed the Equator.
7 "			75	77								
8 "			74	76								
8·30 "			73	76								
9 "			73	76	75°	30·020	77° 69°					
9·30 "			73	76								
10 "			73	77						Clear.	b.	
10·30 "			73	77					2			
11 "			73	77								
11·30 "			73	77						Cir. st.	c.	Sounded with 80 fathoms line; no bottom.
12 "			73	77					1			
Mean.			74·85	77·17	75·5	30·000						
Nov. 5.												
1 A. M.			74°	76°				S^{d}.	2	Cir. st.		Steering to the westward.
1·30 "			73	76								
2 "			74	76								
2·30 "			73	76								
3 "			73	76	75°	29·980	77° 69°					
3·30 "			74	76								
4 "			73	76								
4·30 "			73	76								
5 "			73·5	76								Observing temperature every half hour.
5·30 "			73·5	76·5								
6 "			73·5	76·5								
6·30 "			73·5	76·5						Clear.	b.	
7 "			73·5	76·5					3			
7·30 "			74	76·5								
8 "			74·5	76·5								
8·30 "			74·5	77								
9 "			75	77	75°	30·030	75° 70°	S. S. W.	2			
9·30 "			75·5	77								
10 "			76	77								
10·30 "			76	77				S. by W.	2	Cir. st.	b. c.	
11 "			75	77								
11·30 "			76	77								

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 5.												
12 A. M.	0° 10′	17° 09′	77°	77°								Passed over position of Triton Bank.
1 P. M.			76	78								
2 "			76	78				South.				
3 "			75	77	74°	29·940	77° 71°					
4 "			75	77						Clear.	b.	
5 "			75	76								
6 "			75	76								Sounded with 95 fathoms line; no bottom.
7 "			74	76								
8 "			74	76						Nimbus	c.	
9 "			74	76	74°	30·000	76° 74°					
10 "			74	75							c. d.	Sounded with 81 fathoms; no bottom.
11 "			74	75								
12 "			74	75							c.	
Mean.			74·44	76·38	74·5	29·987						
Nov. 6.												
1 A. M.			75°	76°				S. ½ W.	2	Stratus.	c.	Steering to the westward.
2 "			75	76					1			
3 "			75	76	74°	29·970	75° 70°					
4 "			75	76								Sounded with 100 fathoms; no bottom.
5 "			74	76				S. by E.				
6 "			74	76								
7 "			75	76				S. S. E.				
8 "			77	76					2			
9 "			77	76	78°	30·030	76° 70°			Cum. st.		
10 "			77	76								
11 "			78	77								
12 "	0° 36′	17° 37′	79	76					1			
1 P. M.			76	77					2			
2 "			76	77				Sd.	3			
3 "			79	77	75°	29·960	78° 71°		4	Clear.	b.	
4 "			79	77								
5 "			78	77								
6 "			76	77								
7 "			76	77					3			
8 "			76	77								
9 "			75	76		30·030	77° 72°					
10 "			74	76						Cirrus.	b. c.	
11 "			74	76								
12 "			74	76								
Mean.			76·04	76·37	75·66	29·997						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 7.												
1 A. M.			75°	76°				S^{d}.	4	Cumuli.	c.	In search of Vigias.
2 "			75	76								
3 "			75	77	75°	29·980	77° 73°					
4 "			75	77								
5 "			75	77								Current ¼ mile ¼ W. by N.
6 "			75	77								
7 "			75	77								
8 "			76	77								
9 "			78	77	77°	30·050	73° 69°					
10 "			79	77								
11 "			79	77						Clear.	b.	
12 "	0° 03′	18° 20′	80	77								
1 P. M.			75	77								
2 "			76	78				S. by E.	3			Saw a vessel standing to the northeast.
3 "			77	78	76°	29·930	78° 70°					
4 "			76	78				South.	4			
5 "			76	77								
6 "			76	77								
7 "			75	76								
8 "			75	77								
9 "			75	77	74°	30·040	81° 72°			Cumuli.	c.	
10 "			75	77								Pyrosoma seen in great numbers.
11 "			75	77								
12 "			75	77								
Mean.			75·95	77	75·5	30·000						
Nov. 8.												
1 A. M.			74°	76°				South.	4	Clear.	b.	Searching for Bonvet's Sandy Isle.
2 "			74	76								
3 "			74	76	74°	29·980	78° 71°			Cumuli.	c.	
4 "			74	76								
5 "			73	76								Saw a vessel.
6 "			74	76				S. S. E.				
7 "			75	77								
8 "			76	77								
9 "			76	77	76°	30·010	77° 71°					
10 "			76	77								
11 "			75	77					3			
12 "	0° 31′	19° 30′	76	77						Clear.	b.	
1 P. M.			77	77				S^{d}. & E^{a}.	4			
2 "			77	77								
3 "			77	77	76°	29·920	78° 69°					
4 "			77	77								
5 "			76	77								
6 "			76	77								
7 "			76	77								
8 "			76	77						Cumuli in horizon.	b. m.	
9 "			75	77	74°	30·020	81° 72°					Water brilliantly illuminated by the Pyrosoma.
10 "			75	77								
11 "			74	76								
12 "			74	76								
Mean.			76·12	76·66	75	29·982						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 9.												
1 A. M.			75°	76°				S. by E.	4	Cum. st.	b. c.	Steering to the southward and westward.
2 "			75	76								
3 "			74	76	74°	29·940	75° 69°					Passed a vessel standing to the northward.
4 "			74	76								
5 "			75	76						Clear.	b.	
6 "			74	76								
7 "			75	76								
8 "			75	76					3			
9 "			78	77	78°	30·020	78° 70°	S. S. E.				Saw two vessels.
10 "			78	77								
11 "			79	77								
12 "	1° 13′	20° 06′	79	77								
1 P. M.			76	77				S. E.				
2 "			79	77								
3 "			79	77	76°	29·940	78° 69°					Sounded with 1000 fathoms line, but lost 950 fathoms in hauling it in.
4 "			77	77					2			
5 "			76	77								
6 "			75	77								
7 "			74	76				S. E. ½ E.				Saw a barque standing north.
8 "			74	76								
9 "			74	76	73°	30·000	77° 70°					
10 "			74	76						Cirri.	b. c.	
11 "			74	76								
12 "			74	76								
Mean.			75·7	76·42	75·25	29·975						
Nov. 10.												
1 A. M.			74°	76°				S. E. ½ E.	2	Cum. st.	c.	In search of Krusenstern's Shoal.
2 "			74	76								
3 "			74	76	73°	29·910	75° 70°					
4 "			74	76						Clear.	b.	
5 "			75	77					3			
6 "			75	77								
7 "			75	77								
8 "			76	77								
9 "			76	77	73°	30·000	77° 69°	S.E. by S.		Cir. st.	b. c.	
10 "			77	78				S. E.				
11 "			79	78					2			
12 "	2° 36′	20° 53′	78	78				S. E. ½ E.				
1 P. M.			76	78				S.E. by S.				
2 "			76	78							c. p.	
3 "			77	78	76°	29·920	78° 70°	S. S. E.	3	Cumuli.	c.	
4 "			76	77								
5 "			75	77								
6 "			75	77								
7 "			75	77								
8 "			74	77					4			
9 "			74	76	74°	29·990	75° 69°					
10 "			74	76								
11 "			74	76								Ten meteors seen in a N. E. and N. W. direction.
12 "			74	76								
Mean.			76·12	76·91	74	29·955						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 11.												
1 A. M.			74°	77°				S. S. E.	3	Clear.	b.	Course S. W. by W.
2 "			74	77								
3 "			74	77	74°	29·920	74° 69°	S.E. by E.				
4 "			74	77								
5 "			74	77								
6 "			74	77				S. S. E.				
7 "			75	77								
8 "			77	77								
9 "			79	77	74°	30·020	75° 69°					
10 "			79	77								
11 "			79	77								
12 "	2° 56′	20° 29′	80	77								Great numbers of Pyrosoma.
1 P. M.			79	78								
2 "			78	78								
3 "			79	78	77°	29·980	79° 70°					
4 "			79	78								
5 "			77	78								
6 "			76	77					4			
7 "			76	77				S. by E.				
8 "			76	77						Cumuli.	c.	
9 "			76	76	74°	30·040	78° 70°	S. S. E.				
10 "			75	76								Water very brilliant.
11 "			75	77								Saw the Magellanic clouds.
12 "			75	77								
Mean.			76·41	77·12	74·75	29·990						
Nov. 12.												Course S. 40° W.
1 A. M.			74°	77°				S. S. E.	4	Cumuli.	c.	
2 "			74	77								
3 "			74	76	74°	29·980	78° 73°					
4 "			74	76								
5 "			75	77								
6 "			75	77								
7 "			75	77					5			
8 "			77	78						Clear.	b.	
9 "			77	78	77°	30·080	78° 69°					
10 "			77	78					4			
11 "			77	78								
12 "	4° 06′	22° 08′	77	78				S.E. by S.				
1 P. M.			77	78						Cumuli.	c.	
2 "			76	78								
3 "			76	78	76°	30·000	78° 70°					
4 "			76	77								Saw a sail.
5 "			76	77								
6 "			76	77						Cum. st.	b. c.	Many flying-fish.
7 "			76	77								
8 "			76	77								
9 "			75	76	74°	30·060	78° 74°					
10 "			75	76					5	Clear.	b.	
11 "			75	76								
12 "			75	76								
Mean.			75·62	77·08	75·25	30·030						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 13.												
1 A. M.			74°	76°				S. E. by S.	4	Cumuli.	b. c.	Course S. 40° W.
2 "			74	76								
3 "			74	76	74°	29·980	77° 70°					Unusual number of meteors.
4 "			74	76								
5 "			74	76								Saw a vessel.
6 "			74	76								
7 "			76	77								
8 "			77	78								
9 "			77	77	76°	30·060	77° 70°					
10 "			77	77								
11 "			78	78						Cum. st.		
12 "	6° 16′	24° 25′	78	78								Great numbers of flying-fish and a flock of gulls.
1 P. M.			76	77								
2 "			76	77					5	Cumuli.		
3 "			76	77	75°	29·950	81° 71°					
4 "			76	77								
5 "			76	77								
6 "			76	77								
7 "			75	77						Clear.	b.	
8 "			74	77								
9 "			75	76	76°	30·080	75° 70°					
10 "			75	76								Numbers of meteors.
11 "			74	76								
12 "			74	76								Course S. 40° W.
Mean.			75·41	76·7	75·25	30·017						
Nov. 14.												
1 A. M.			74°	76°				S. E. by S.	5	Cumuli.	b. c.	Many meteors, originating principally from Leo.
2 "			74	76								
3 "			74	76	74°	29·950	77° 70°					
4 "			74	76								
5 "			74	76					4			
6 "			75	76								Saw a vessel.
7 "			78	76								
8 "			79	76					5			
9 "			79	77	78°	30·100	79° 70°			Clear.	b.	
10 "			78	77								
11 "			78	78								
12 "	8° 57′	26° 29′	77	78								
1 P. M.			76	77								
2 "			76	77						Cumuli.	b. c.	
3 "			76	78	76°	30·020	79° 70°					
4 "			76	78					4			
5 "			76	78					5			
6 "			76	78								
7 "			75	78								
8 "			75	78					4			
9 "			75	78	75°	30·120	77° 70°					
10 "			74	78								Meteors.
11 "			74	77								
12 "			74	77								
Mean.			75·7	77·08	75·75	30·047						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 15.												
1 A. M.			74°	77°				S. E. by S.	4	Cumuli.	b. c.	Course S. 60° W.
2 "			74	77								
3 "			75	78	74°	30·080	77° 69°					
4 "			75	78								
5 "			75	78								
6 "			75	78								
7 "			75	78								
8 "			76	78								
9 "			76	78	76°	30·150	77° 71°					Current setting west, 30 miles in 24 hours.
10 "			78	78								
11 "			79	79								
12 "	11° 26′	28° 27′	79	79					3		b.	
1 P. M.			77	78				S. E.				
2 "			76	78						Cumuli.	c.	
3 "			76	78	75·5°	30·120	78° 68°	S. E. by S.				
4 "			76	78							c. r.	
5 "			75	78					2			Rain ·18 in.
6 "			75	78							c.	
7 "			76	78								
8 "			76	78					3			
9 "			75	78	75°	30·180	75° 69°		4	Clear.	b.	
10 "			74·5	78						Cum. st.	c.	
11 "			74·5	78								
12 "			74·5	78								
Mean.			75·60	78	75·12	30·132						
Nov. 16.												
1 A. M.			75°	78°				S. E. by S.	4	Cum. st.	c.	Course S. 60° W.
2 "			75	78								
3 "			75	77·5	74°	30·010	76° 68°					
4 "			75	77·5								
5 "			75	78				S. E.				
6 "			75	78								
7 "			76	78								
8 "			76	78								
9 "			78	78	83°	30·180	77° 68°					Current S. W. 27 miles in 24 hours.
10 "			78	78								
11 "			78	79								
12 "	13° 56′	30° 18′	78	79					5			
1 P. M.			78	79								Brig seen standing N. E.
2 "			78	79						Nimbi.		
3 "			78	79	76°	30·120	78° 70°				c.	
4 "			78	79					6		c. q.	Crossed the magnetic equator in 13° 30′ S.
5 "			77	79								
6 "			75	79					4		c. q. p.	and 30° 18′ W.
7 "			75	78								
8 "			75	78								
9 "			75	78	74°	30·180	77° 71°				c.	
10 "			75	77								
11 "			74	76								
12 "			74	77								
Mean.			76·08	78·08	76·75	30·122						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 17.												
1 A. M.			74°	76°				S. E.	5	Cum. st.	c.	Current S. 60° W.
2 "			74	76								
3 "			74	76	75°	30·080	76° 71°					
4 "			74	76								
5 "			75	77								
6 "			76	79								
7 "			78	79								
8 "			78	79								Current S.W. ¼ W.
9 "			79	79	79°	30·120	80° 70°					20 miles in 24 hours.
10 "			79	79						Cumuli.	b. c.	
11 "			79·5	79				S.E. by E.				
12 "	15° 57′	32° 06′	79	79								
1 P. M.			79	79								
2 "			78	79					4			Heavy swell from
3 "			78	79	76°	30·100	79° 69°			Clear.	b.	S.W.
4 "			78	79								
5 "			78	79								
6 "			77	78								
7 "			76	78								
8 "			74	77								
9 "			75	78	77°	30·180	78° 71°					
10 "			75	78								
11 "			75	78						Cumuli.	c.	
12 "			75	78								
Mean.			76·56	78·08	76·75	30·120						
Nov. 18.												
1 A. M.			74°	78°				S.E. by E.	4	Cumuli.	b. c.	Current S. 61° W.
2 "			74	78								
3 "			74	78	77°	30·100	77° 68°	E. S. E.				
4 "			74	78				N.E. by E.				
5 "			75	78				N. E.				
6 "			75	78								
7 "			76	78								
8 "			77	78								Current S.W. 20 miles
9 "			78	79		30·150	78° 67°					in 24 hours.
10 "			79	79						Clear.	b.	
11 "			79	79								
12 "	17° 58′	33° 41′	79	79								
1 P. M.			79	78								
2 "			79	79				N.E. by E.				
3 "			79	79	77°	30·120	80° 70°					
4 "			79	78								
5 "			79	79								
6 "			78	78								
7 "			76	78								
8 "			75	78					5			
9 "			76	77	76°	30·140	78° 69°					
10 "			76	77								
11 "			75	77								
12 "			75	77								
Mean.			76·66	78·12	76·66	30·127						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 19.												
1 A. M.			75°	76°				NE.by N.	4	Clear.	b.	Course S. 60° W.
2 "			75	76				N. N. E.				
3 "			75	76	75°	30·100	78° 70°					
4 "			75	76								
5 "			75	77								
6 "			76	77								
7 "			76	77								
8 "			76	77								
9 "			78	76	78°	30·110	77° 72°			Cir. st.	c.	
10 "			78	76								
11 "			78	76					5		c. m.	
12 "	20° 17′	35° 31′	79	76								
1 P. M.			80	76								
2 "			77	76								
3 "			77	76	76°	30·100	79° 73°					
4 "			77	76								Current S.W. 25 miles per day.
5 "			76	76						Nimbi.		
6 "			76	76								
7 "			75	75					4			
8 "			74	75							c. r.	
9 "			74	75	74°	30·100	78° 75°		2		q.	
10 "			73	75							c. q. r.	
11 "			72	75				N. N. E.				
12 "			72	75				W^d.	3			
Mean.			75·75	75·91	75·75	30·102						
Nov. 20.												
1 A. M.			72°	75°				W^d.	2	Nimbi.	q. l. r.	Course S. 52° W.
2 "			72	75								
3 "			72	75	72°	30·050	Rain.					
4 "			72	75								
5 "			70	75					1			
6 "			69	75								Current ½ knot per hour.
7 "			71	75								
8 "			76	75								
9 "			72	75	70°	30·050	Rain.	Calm.	0			
10 "			74	75				N. W.	3		q.	
11 "			74	76				NW.½W.	4		c. q.	Rain 1·17 in.
12 "	21° 18′	36° 58′	72	76						Cum. st.		
1 P. M.			73	76				S^d.	3			
2 "			72	76							c.	
3 "			73	76	73°	29·900	79° 73°					
4 "			73	76								
5 "			76	75					2			Heavy swell from southward and eastward.
6 "			75	75				S. E^d.				
7 "			74	75								
8 "			74	75								
9 "			74	75	72°	29·980	77° 69°					
10 "			73	75				S. S. E.				
11 "			73	75								
12 "			73	75								
Mean.			72·87	75·25	71·75	29·995						

U. S. SHIP VINCENNES.

FROM PORTO PRAYA TO RIO DE JANEIRO.

1838.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Diree.	Force.	Clouds.	Weather.	Remarks.
Nov. 21.												
1 A. M.			73°	76°				S^{d}.	3	Clear.	b.	Course S. 75° W.
2 "			73	76								
3 "			73	76	72°	29·900	74° 66°					Saw several meteors to the southward.
4 "			73	76								
5 "			73	76				E.S.E.				
6 "			74	76					2			Saw a vessel standing to the northward.
7 "			77	75								
8 "			77	75				E. by S.				
9 "			79	75	76°	29·980	76° 69°					
10 "			79	76								
11 "			79	76						Cumuli.	c.	
12 "	21° 58′	38° 39′	79	76								
1 P. M.			77	76								
2 "			77	76				East.				
3 "			76	76	75°	29·920	78° 72°		3			Saw a vessel.
4 "			76	76								
5 "			76	76								
6 "			77	76								
7 "			75	76				E. N. E.				
8 "			74	75					4			Current ½ knot S. ½ W.
9 "			74	75	74°	29·920	77° 65°				c. l.	
10 "			74	75								
11 "			74	76								
12 "			74	76								
Mean.			75·54	75·54	74·25	29·930						Course S. 69° W.
Nov. 22.												
1 A. M.			74°	76°				E. N. E.	4	Cumuli.	c. l.	
2 "			74	76								
3 "			74	76	74°	29·850	76° 70°					
4 "			74	76								
5 "			74	76							c. m.	Saw a vessel.
6 "			75	76								
7 "			75	76								
8 "			75	76								
9 "			75	71	74°	29·850	77° 73°	N^{d}.	5			Sounded in 47 fathoms water; bottom, green ooze with shells.
10 "			74	69								
11 "			76	71					3			
12 "	23° 12′	41° 27′	74	71				N. N. W.	1			Made Cape Frio N. W. by W.
1 P. M.			75	72				S. S. W.				
2 "			73	71·5				S. W.				
3 "			77	72	74°	29·820	75° 71°	S.W.byS.				Spoke ship Louisiana, 51 days from New York.
4 "			75	72				N. by W.		Nimbi.		
5 "			73	72				N. N. W.			o. m.	
6 "			72	72				NWbyN.	2			
7 "			73	72							o. m. d.	Land in sight to the southwestward.
8 "			72	72								
9 "			71·5	72	71°	29·850	Rain.					
10 "			72	72								
11 "			72	72								Off Cape Frio.
12 "												
Mean.			73·85	73·11	73·25	29·842						

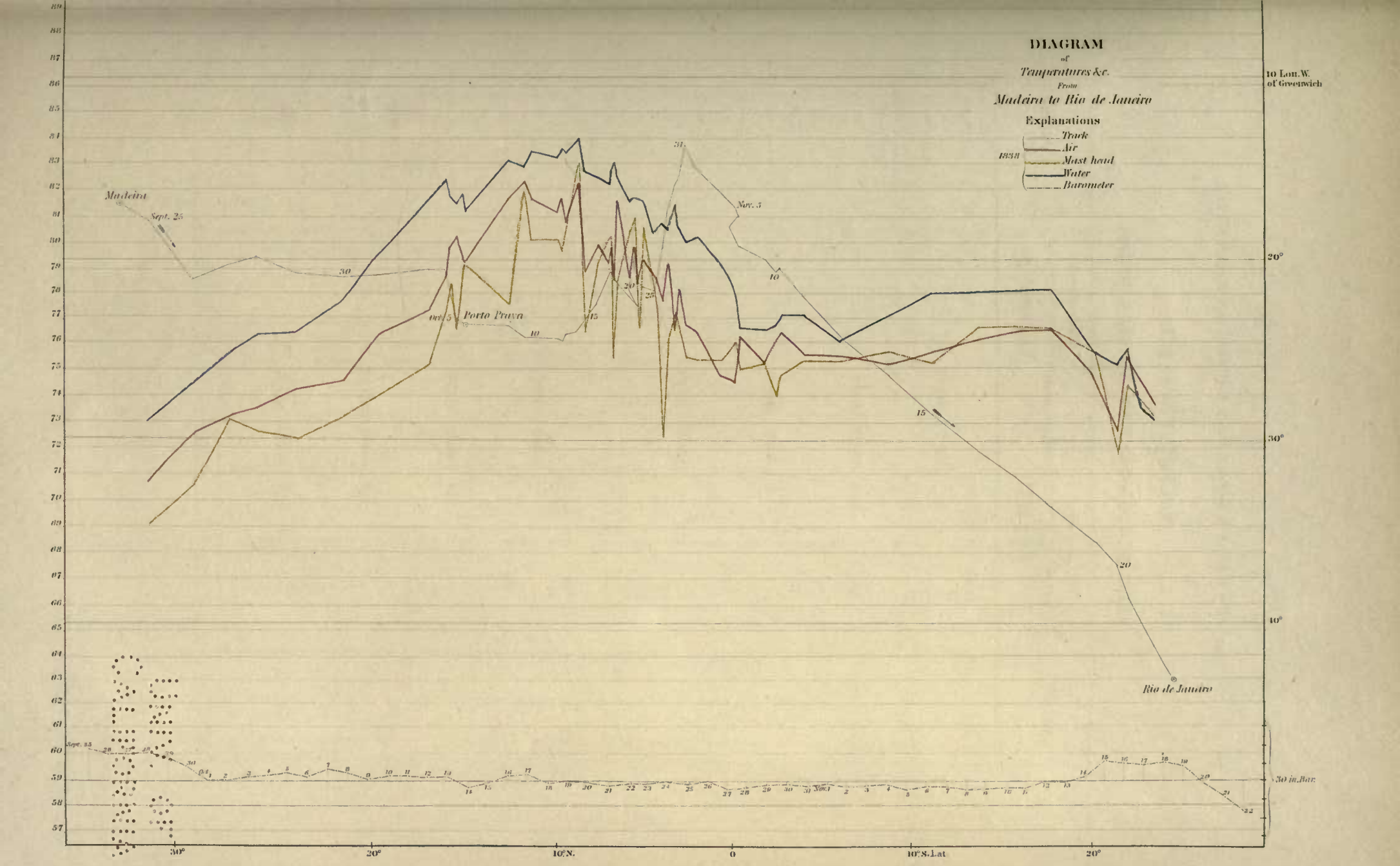


DIAGRAM
of
Temperatures &c.
From
Madeira to Rio de Janeiro
Explanations
Track
Air
1838
Mast head
Water
Barometer
10 Lon. W. of Greenwich
Madeira
Sept. 25
Oct. 5
Porto Praya
Nov. 5
Rio de Janeiro
20°
30°
40°
30 in. Bar.
30°
20°
10° N.
0
10° S. Lat
20°

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U. S. SHIP VINCENNES.

RIO DE JANEIRO—OFF ENXADOS ISLAND.

1838.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 23.												
1 A. M.			72°	72°				NW.byN	4	Cumuli.	c.	Course W. N. W.
2 "			71	72								
3 "			71·5	72	70°	29·850	74° 69°					
4 "			71	72								
5 "			70	72				S. W.			c. m.	
6 "			71	73					3		c. m. d.	
7 "			72	73				S. by W.				
8 "			73	72							c.	
9 "			72	71	72°	29·980	73° 66°	South.		Clear.	b.	Made the Sugar Loaf.
10 "			71·5	71								
11 "			74	70								
12 "			72	69					2			
1 P. M.												
2 "								S. W^{d}.	1			
3 "			72	72	71·5°	29·950	70° 65°					
4 "									2			
5 "												
6 "										Cirri.	b. c.	Came to anchor near Enxados Island. Peacock had arrived three days previously.
7 "								Calm.	0			
8 "								N. W^{d}.	1			
9 "			72	74		30·000	74° 66°					
10 "			72	74								
11 "				73								
12 "			70	73								
Mean.			71·68	72·06	71·17	29·945						
Nov. 24.												
1 A. M.			70°	72°				Calm.	0	Cirri.	c.	
2 "			70	72				S. E^{d}.	2			
3 "			70	72	69°	29·980	72° 68°					
4 "			70	72								
5 "			70.5					N. E^{d}.	2	Clear.	b.	
6 "			71									
7 "			72									
8 "			72						1			
9 "			76	72	73°	30·020	73° 68°	S. E^{d}.	2			
10 "			74									
11 "			74									
12 "			74									
1 P. M.			76									
2 "			76						3	Cum. st.	c.	
3 "			74	72		30·000	74° 69°					
4 "			75					S^{d}.	2			
5 "			75									
6 "			75						1			
7 "			74									
8 "			74									
9 "			74	72		30·100	74° 69°					
10 "			73						2			
11 "			73									
12 "			73									
Mean.			73·17	72	71	30·025						

Standing in for Rio de Janeiro.

Rio de Janeiro.

U. S. SHIP VINCENNES.

RIO DE JANEIRO—OFF ENXADOS ISLAND.

1838.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 25.												
1 A. M.			72°					Sd.	2	Cum. st.	c.	
2 "			72									
3 "			72			30·000	72° 69°					
4 "			72									
5 "			72									Landing instruments for the observatory on Enxados Island.
6 "			72									
7 "			74									
8 "												
9 "			74	74°		29·980	75° 66°					
10 "			76									
11 "			76									
12 "			76						3	Clear.	b.	
1 P. M.			75	74								
2 "									2			
3 "			73	73		30·000	77° 60°					
4 "			76	75								
5 "												
6 "			73	75				Calm.	0			
7 "								Nd.	1			
8 "			73	75								
9 "			72	72		30·080	74° 68°		2			
10 "												
11 "												
12 "												
Mean.			73·7	74		30·015						
Nov. 26.												
1 A. M.			75°					Nd.	2	Clear.		Putting up instruments, &c.
2 "			73									
3 "			76	75°		30·000	70° 60°					
4 "			72									
5 "									1			
6 "												
7 "												
8 "			76	74				N. Ed.				
9 "			80	75		29·890	83° 70°					
10 "									2			
11 "												
12 "												
1 P. M.												
2 "									3			
3 "			79					Sd. & Ed.				
4 "										Cum.	c. u.	
5 "												
6 "									2			
7 "								N. Wd.		Nimbus	o. u. l.	
8 "			77	73								
9 "						29·720			3			
10 "											c. u.	
11 "												
12 "												
Mean.			76	74·25		29·870						

Rio de Janeiro.

U. S. SHIP VINCENNES.

RIO DE JANEIRO—OFF ENXADOS ISLAND.

1838.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 27.												
1 A. M.								N. W^{d}.	3	Nimbi.	r. t. l.	
2 "												
3 "												
4 "			72°	73°			Rain.		2		d.	
5 "												
6 "												
7 "								Var.	1		r.	
8 "												Putting up instruments.
9 "			74	72		29·950	Rain.					
10 "			78	71								
11 "	Rio de Janeiro.		81	73						Cum. st.	c.	
12 "			80	76								
1 P. M.			83	76				S. E^{d}.	2			
2 "			80	75					3	Clear.	b.	
3 "			79	75		29·800	78° 72°					
4 "			76	75								
5 "			76	75								
6 "			76	75								
7 "			74	74				S. W^{d}.	2			
8 "			73	73								
9 "			74	73		29·820	81° 70°	Var.	1	Strati.	c.	
10 "			73	72								
11 "			73	72								
12 "			73	72								
Mean.			76·85	73·64		29·856						
Nov. 28.												
1 A. M.			72°					S. E^{d}.	2	Strati.	c. d.	
2 "			74	74°								
3 "			76	75		29·800				Clear.	b.	
4 "			74	75								
5 "			76	75					1			
6 "			79	75								
7 "			83	75				N. W^{d}.	1	Cum. st.	c.	Putting up instruments.
8 "			84	75								
9 "			83	71		29·700	79° 72°					
10 "			83	73					3			
11 "				71								
12 "	Rio de Janeiro.		82	75								
1 P. M.			86	76								
2 "			93	78							q. r.	
3 "			77	75		29·800	82° 72°	N. W.			c.	
4 "			76	76								
5 "			78	74					2			
6 "			75	74								
7 "			76	75								
8 "			75	75				N. E^{d}.		Cloudy.	c.	
9 "			75	75		29·820	85° 72°		1			
10 "			75	75								
11 "			75	75								
12 "			75	75								
Mean.			78·34	74·65		29·780						

U. S. SHIP VINCENNES.

RIO DE JANEIRO—OFF ENXADOS ISLAND.

1838.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 29.												
1 A. M.			72°					Ed.	1	Cum.	c.	
2 "			72									
3 "						29·800	76° 74°					
4 "								Calm.	0			
5 "			76	76°								
6 "			77	76				Sd.	1			
7 "			81	77								
8 "			79	76				S. Wd.	2			Preparing the observatory on Enxados Island.
9 "			76	75		29·700	84° 78°					
10 "			78	76								
11 "	Rio de Janeiro.		78	75						Clear.	b.	
12 "			78	72								
1 P. M.			78	72								
2 "			74	72				S. Ed.	2			
3 "			75	72		29·640						
4 "			73	72								
5 "			73	75				S. Ed.				
6 "			73	75				Ed.				
7 "										Cum. st.	c. w.	
8 "												
9 "			70	72		29·760		Var.	1			
10 "			70	72								
11 "			70	70								
12 "			69	70								
Mean.			74·5	73·61		29·725						
Nov. 30.												
1 A. M.			78°	76°				Calm.	0	Cumuli.	c.	
2 "			76	73								Began tidal observations.
3 "			76	71								
4 "			76	71								
5 "			77	72								
6 "			75	77								
7 "			72	77								
8 "			72	77				S. Wd.	2			
9 "			71	75		29·790						
10 "			71	75						Clear.	b.	Preparing the observatory on Enxados Island.
11 "			69	73								
12 "			69	72					3			
1 P. M.			68	74								
2 "			68	74								
3 "	Rio de Janeiro.		68	75		29·900	81° 73°					
4 "			68	75								
5 "			68	75								
6 "			70	75								
7 "			77	75								
8 "			82	75				S. Ed.	2			
9 "			81	76		29·980	80° 70°					
10 "			81	77								
11 "			82	74								
12 "			79	76								
Mean.			73·91	74·58		29·890						

U. S. SHIP VINCENNES.

RIO DE JANEIRO—OFF ENXADOS ISLAND.

1838.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 1.												
1 A. M.			68°	74°				N. W.	2	Clear.	b.	
2 "			68	74								
3 "			68	75		30·000	74° 68°					
4 "			68	75						Cumuli.	c.	
5 "			68	75				N^{d}.				
6 "			70	75								
7 "			77	75								
8 "			82	75				N. E^{d}.	1	Clear.	b.	
9 "			81	76		29·950	76° 68°					
10 "	Rio de Janeiro.		81	77					2			
11 "			82	74								
12 "			79	76								
1 P. M.			82	78				Var.	1			
2 "			77	76								
3 "			80	75		29·840	80° 70°					
4 "			82	77								
5 "			83	79				N. E^{d}.	2			
6 "			81	78								
7 "			78	76								
8 "			78	76					1			
9 "			77	78		29·850	80° 78°	Calm.	0			
10 "			76	78							b. l.	
11 "			75	76								
12 "			75	76								
Mean.			76·5	76		29·910						
Dec. 2.												
1 A. M.			73°	71°				Calm.	0	Clear.	b. l.	
2 "			74	71								
3 "			73	73								
4 "			74	74							b.	
5 "			73	73				N. E^{d}.	2			
6 "			76	75								
7 "			78	77					1			
8 "			82	76				N. W^{d}.	2			
9 "			82	74		29·870						
10 "			80	81								
11 "			80	88								
12 "	Rio de Janeiro.		80	88								
1 P. M.			87	75								
2 "			87	78								
3 "			86	80		29·740	84° 70°					
4 "			84	80								
5 "			82	82								
6 "			80	81				Var.	1			
7 "												
8 "												
9 "			79	78		29·800	83° 70°					
10 "			78	78							b. l.	
11 "			75	78								
12 "			78	78								
Mean.			79·13	77·67		29·803						

Arranging Instruments.

U. S. SHIP VINCENNES.

RIO DE JANEIRO—OFF ENXADOS ISLAND.

1838.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 3.												
1 A. M.			78°	76°				W^d.	1		b. l.	
2 "			76	75								
3 "			76	75		29·820				Nimbus		
4 "			76	74				N. N. W.	3		q. p.	
5 "			75	72								
6 "			72	74								
7 "			72	74				N. W^d.	1		r.	
8 "			72	74								
9 "			72	72		29·900						
10 "			72	72					2			
11 "			73	72								
12 "			75	73								Rain 1·04 in.
1 P. M.			76	73				Var.	1		c.	
2 "			78	70							b.	
3 "			76	71		29·89						
4 "			74	73								
5 "			74	74								
6 "			74	74								
7 "			74	75								
8 "			74	75								
9 "			74	76		29·94						
10 "			74	75				N. W^d.	2	Cloudy.	c.	
11 "			73	76								
12 "			72	75								
Mean.			74·25	73·75		29·887						
Dec. 4.												
1 A. M.			72°	72°				W^d.	1	Cum. st.	c.	
2 "			72	72								
3 "			72	72		29·900						
4 "			72	72				Var.	1	Nimbus	r.	
5 "			72	73								
6 "			72	74								
7 "			72	72								
8 "			72	74				S. E^d.	2	Cum. st.	c. m.	
9 "			72	72		29·920						
10 "			72	72								Rain ·7.
11 "			72	72							c. d.	
12 "			73	72					3			
1 P. M.			72	72								
2 "			72	72								
3 "			71	71		29·970						
4 "			70	71								
5 "			72	72								
6 "			71	72					2		c. m.	
7 "			71	71						Nimbus		
8 "			71	72								
9 "			71	72		30·000			1			
10 "			70	72								
11 "			70	73								
12 "			70	73								
Mean.			71·5	72·16		29·947						

Rio de Janeiro.

Rio de Janeiro.

U. S. SHIP VINCENNES.

RIO DE JANEIRO—OFF ENXADOS ISLAND.

1838.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 5.												
1 A. M.			69°	72°				Calm.	0	Cum. st.	c.	
2 "			69	71								
3 "			70	72		29·910						
4 "			69	71				N^{d}.	1			
5 "			69	71								
6 "			70	71								
7 "			72	72								
8 "			76	73				S. E^{d}.	1			
9 "			77	73		29·900			2			
10 "	Rio de Janeiro.		75	73								
11 "			76	73								
12 "			74	73								
1 P. M.			74	73						Nimbi.	c. p.	
2 "			72	72								
3 "			72	72		29·900	Rain.				d.	
4 "			72	72								
5 "			70	72								
6 "			70	72						Cumuli.	c.	
7 "			70	72								
8 "			70	72								
9 "			69	72		29·920		Var.	1		c.	
10 "			69	72								
11 "			69	73								
12 "			69	72								
Mean.			71·33	72·12		29·907						
Dec. 6.												
1 A. M.			71°	71°				N. W^{d}.	2	Nimbi.	r.	
2 "			70	70								
3 "			69	72		29·800						
4 "			69	72								
5 "			70	72								
6 "			70	71								Rain ·8 in.
7 "			70	72								
8 "			72	72				Calm.	0	Cumuli.	c.	
9 "			74	74		29·920		S. E^{d}.	2			
10 "			74	74								
11 "			76	74								
12 "			80	74								
1 P. M.			79	74								
2 "			80	74								
3 "			77	74		29·920						
4 "	Rio de Janeiro.		75	71							d.	
5 "			72	71								
6 "			72	71				Var.	1		c.	
7 "			72	73								
8 "			72	73								
9 "			72	72		29·920		N. W^{d}.	2			
10 "			71	72								
11 "			71	72								
12 "			71	71								
Mean.			72·87	72·33		29·890						

OBSERVATORY.

ENXADOS ISLAND—RIO DE JANEIRO.

The Observatory on Enxados Island was finished on the 7th December, when the meteorological observations were begun; the following instruments being used, viz.:—

Barometer (standard).

Attached thermometer.

Thermometer placed in the direct rays of the sun, the bulb being covered with black wool; one foot from the ground; soil, gravel.

Thermometer with bulb uncovered, in same situation.

Thermometer in a well-ventilated apartment.

Thermometer in a well two feet above the water, the well being in the cellar of the building.

Thermometer in the water of the same well.

Hygrometer.

Photometer.

The temperature of the water was observed on board U. S. Ship Vincennes.

1838.	Barom.	THERMOMETERS.					Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Att.	Black Wool.	Shade.	House.	Water.		Direc.	Force.			
Dec. 7.												
1 A. M.						72°		W^{d}.	2	Clear.	b.	
2 "						72						
3 "	29·920	71°				72						
4 "						72						
5 "						72		S. E^{d}.	2	Hazy.	b. m.	
6 "						71						
7 "						71						
8 "			86·3°	75·3°	75°	74						Commenced observing on shore.
9 "	29·920	75°	82·3	74·3	74	74						
10 "			90	73	75	74						
11 "			91·3	74·3	75	74						Cumuli in horizon.
12 "			89	75·3	75·3	74			3		b. c.	
1 P. M.			85·3	75	75	74						
2 "			87·3	77·3	75·3	74		S. S. E.				
3 "	29·880	77°	87	76·3	76	74						
4 "			79	75	75·3	73					c.	Cumuli overhead; nimbi in horizon.
5 "			77	75	75·4	72						
6 "			75	74	75	74						
7 "			73·4	73·3	75	74			2			
8 "			73·4	73·3	75	71		Calm.	0		b. c.	Clear overhead.
9 "	29·950	72°	73·1	73	72·3	71						
10 "			71·4	72	71·4	71		Var.	1			
11 "			72	72	72	71						
12 "			72	71·3	72	71						
Mean.	29·917	73·75	80·27	74·2	74·5	72·58						

OBSERVATORY.

ENXADOS ISLAND—RIO DE JANEIRO.

1838.	Barom.	THERMOMETERS.						Photometer.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Att.	Black Wool.	Expos.	Shade.	House.	Water.			Direc.	Force.			
Dec. 8.														
1 A. M.			72°		73°	72·3°	72°			N. E^{d}.	2	Clear.	b.	
2 "			73		73	72·3	72							
3 "	29·890	72°	71·2		71	73·4	73							
4 "			71·4		72	74	73							
5 "							72			S^{d}.	1			
6 "							72			Calm.	0			
7 "							72			N. W.	1			
8 "							74							
9 "	29·920	78°					74							
10 "			102		81	79·1	74							
11 "			93·3		85	80·3	76							
12 "			97		86	81·1	77			S. S. E.	2			
1 P. M.			101		84	81·3	79				3			
2 "			97		87	81·1	79							
3 "			97·3		87	82	80							
4 "			95		85	81·5	80							
5 "			93		83	81	78							
6 "			81		82	80·3	77							
7 "			81		78	80·1	75			N. W^{d}.	1		c.	Cum. in horizon.
8 "			78		77	78	75						b. c. l.	
9 "			77		76	77·3	76							
10 "			75		75·3	76	76			S. W^{d}.		Clear.	b. l.	
11 "			75		75·3	74·3	75						b.	
12 "			75		75·3	77·4	75			N^{d}.				
Mean.	29·905	75	84·5		79·28	78·17	75·25							
Dec. 9.														
1 A. M.			75°		75·3°	77·4°	74°			E. N. E.	2		b.	Hazy about the horizon.
2 "			74·3		75·2	77	74							
3 "	29·900	73°	73·3		74·3	74	72							
4 "			74		75	74·3	72							
5 "			75·1		75	76·5	75			N^{d}.	1			
6 "			76·1		75·6	77	74							
7 "			77·1		76	78	74					Cumuli.	b. c.	
8 "			85·2		79		74							
9 "	30·000	76°	79·3		78		75							
10 "			81·3		79·3		75			S. E^{d}.				
11 "			87		81		75					Nimbus	c.	
12 "			91		81		76							
1 P. M.			80·3		77		76							
2 "			85		78		76						o.	
3 "	30·000	78°	82	79°	78		75		Rain.				d.	
4 "			79	73	77		75						d. t.	
5 "			73		76		74						d. t. l.	
6 "			72·5		72		74						d.	
7 "			73		73		73			Var.	1			
8 "			73		73		73							
9 "	30·000	72°	72	73	73		72						l.	
10 "			75	73	73·5		72			S. W^{d}.	2			
11 "			70	74	73·5		71							
12 "			72·5	73	74·5		70						l. d.	
Mean.	29·975	74·75	77·41	74·16	76·05	76·71	73·79							

OBSERVATORY.

ENXADOS ISLAND—RIO DE JANEIRO.

1838.	Barom.	THERMOMETERS.						Photometer.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Att.	Black Wool.	Expos.	Shade.	House.	Water.			Direc.	Force.			
Dec. 10.														
1 A. M.			72°	73°	73°		73°			S. W^{d}.	2	Over-	c. m.	
2 "			71·5	71·5	72		72					cast.		
3 "	30·300	71°	71	71	72		73						d.	
4 "			70	71	71		73							
5 "			72	71	72·5		73							
6 "			72	71	72·7		73							
7 "			73·2	72·2	72·8		73							
8 "			80		72		74							
9 "			77·5		76·5		74			Calm.	0			
10 "	30·300	75					74			S. E^{d}.	2	Cumuli.	c.	
11 "	·250	74·5	81	77	75·5	75°	74							
12 "	·233	74·5	83	78	77	76	75	28°	78° 70°					
1 P. M.	·206	75	87	80·5	76·2	76·2	75	26						
2 "	·211	75·5	86	81	77	76·5	75	31		S^{d}.	2	Clear.	b.	
3 "	·210	75·5	89	82·5	77	77	75				3			
4 "	·204	75	83·5	79·5	76·5	78	75	23		S. E^{d}.				
5 "	·200	75	82	77			76					Cum. st.	c.	
6 "	·200	74·6	75·5	75·5	75	75	73							
7 "	·200		74·2	75	74	74	74							
8 "	·200	75	74·5	75	74·5	75	72							
9 "	·260	75			74	74	74						c. p.	
10 "	·264	75	74	74	74·3	75	74				2			
11 "	·250	75	74	74	74	75	74						d.	
12 "	·240	75	74	74	74	75	73							
Mean.	30·233	74·7	77·13	75·18	74·25	75·44	73·8							
Dec. 11.														
1 A. M.	30·202	74°	72°	71·5°	71·5°	75°	76°			S. E^{d}.	1	Nimbi.	c. d.	
2 "	·194	74	71·5	71·5	72	75	75							
3 "	·190	74	72·5	72·5	72	74	74			W^{d}.				
4 "		74	72	72·5	72·5	74	74				2			
5 "	30·206	74	72·5	72·5	72·5	74	75			N. W^{d}.		Cum. st.	c.	
6 "	·206	74	72·5	72·5	72·5	74	76							
7 "	·206	74·5	75·4	74·5	74·2	74	74			Var.	1			
8 "	·200	75	80	76·5	75·5	74	75							
9 "	·204	76	92	83	81	75	76			Calm.	0	Clear.	b.	
10 "	·250	76·	99	89·5	80	76	77			S. S. E.	1			
11 "	·242	76	89	83·5	83·5	76·5	77							
12 "	·128	76·5	86	81·5	78	76	76				2			
1 P. M.	·154	77	86	82	80	77	77							
2 "	·154	78	90	84·5	82	78	77							
3 "	·134	79	91	85	84	79·8	77							
4 "	·134	80	91	85	84	80	76				4			
5 "	.134	81	84	84	84	81	76							
6 "	·134	80	80·5	81	80·5	80	75							
7 "	·128	78	78	77	78	78	76							
8 "	·113	77	77	77	78	77	74			N. E^{d}.				
9 "	·144	77	77·5	77·5	77·5	77	75				3			
10 "	·151	77	74·5	76·5	74·5	76	76			S^{d}.	1			
11 "	·154	76	73·5	73·5	74	76	76			S. E^{d}.				
12 "	·156	75	73·5	73·5	73·6	75	76			Calm.	0			Saw several meteors.
Mean.	30·170	76·37	80·42	78·45	77·3	76·34	75·66							

OBSERVATORY.

ENXADOS ISLAND—RIO DE JANEIRO.

1838.	Barom.	THERMOMETERS.						Photometer.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Att.	Black Wool.	Expos.	Shade.	House.	Water.			Direc.	Force.			
Dec. 12.														
1 A. M.	30·110	74·3°	73·5°	73·5°	73·6°	80·5°	71°			Var.	1	Clear.	b.	
2 "	·108	75	73·5	73·5	73·5	81·5	70			Calm.	0			
3 "	·104	74	73	73	73·5	82	76							
4 "	·112	74	71	71·5	71·5	83·5	76			N. W^{d}.	1			
5 "	·112	74	71	70	71	83	76							
6 "	·118	74	84	77	80	82·5	76							
7 "	·112	74	92·5	81	78·5	82	78							
8 "	·106	74	96·5	85	81	82	78							
9 "	·114	78	101	88	79	81	78			Calm.	0	Cirrus.	b. c.	
10 "	·150	79·3	103·5	89·5	84	81	81			Var.	1	Cir. st.		
11 "	·130	80	105	90·5	87·5	81·5	81	21°						
12 "	·122	80·5	114	93	88	79·5	82	21	81° 62°	Calm.	0			
1 P. M.	·114	82	100·5	91	92	79	83							
2 "	·118	80·5	103·5	87	83·5	78·5	79			S. S. E.	2			
3 "	·069	80·5	98·8	91·8	84·3	78	83	13	80° 66°		3			
4 "	·018	80·5	90·5	86	83	78	79						b.	Cirrus in horizon.
5 "	·050	81	87·5	84·5	83·3	77·5	79				1			
6 "	·050	80	83·5	83	82·5	76·5	79			W^{d}.				
7 "	·060	80	82·5	82	82	77	79							
8 "	·070	80	79·5	80·5	80	77	78							
9 "	·072	79	78	79	79	77	78							
10 "	·082	79	77	78	78	77	76		80° 70°	Calm.	0	Clear.	b.	
11 "	·082	78·5	76·5	77	77	77	76			S^{d}.	1			
12 "	·084	78	76	76·5	76·5	80	77							
Mean.	30·094	77·91	86·92	81·74	80·09	79·68	77·87							
Dec. 13.														
1 A. M.	30·072	78°	75°	75·8°	76°	78°	77°			N. W^{d}.	1	Cum. st.	c. m.	
2 "	·070	77·5	74·8	75·8	75	77·5	78				2			
3 "	·061	77·5	74	75	74·5	76·5	76							
4 "	·054	76·5	74	75	75	77	76							
5 "	·068	76	75	76	75	77	78			W^{d}.			c.	
6 "	·100	76	78·5	77	77	77	78							
7 "	·088	77	80·5	77·5	76·5	77	76				1			
8 "	·100	78	85	80·5	79·8	77	78	16°	79° 60°					
9 "	·106	78	91·5	83·2	82	80	78	19		Calm.	0			
10 "	·100	78·5	95·5	85·5	85	81·5	78		81° 65°					
11 "	·124	79·5	98·5	88	87	82	79							
12 "	·132	81	98·2	88·5	87	84	79	20	80° 66°					
1 P. M.	·094	83	97·5	89·5	88·5	85	82			S. S. E.	1	Cumuli.		
2 "	·070	82	99·5	89·5	86·5	85	87				3			
3 "	·072	82	99	87	85	85	80							
4 "	·060	81·5	86	84·5	88	83·5	79							
5 "	·020	80	84	83·5	82·5	83	79	4	80° 72°		2			
6 "	·020	80	82	82	81	81	79	1·5	79° 71°	N^{d}.	1			
7 "	·052	80	80·5	82	81	80	79					Nimbi.		
8 "	·052	80	78·5	79	79	80	78		80° 69°	Calm.	0			
9 "	·092	80	78	79	79	80	76			N^{d}.	1			
10 "	·096	79·5	78·5	79	78·5	80	76		80·5 76°	S. E^{d}.				
11 "	·100	80	78	78·5	78	80	76							
12 "	·100	80	77	77·5	78·5	79	76		80° 73°	Calm.	0		c. d.	
Mean.	30·079	79·37	84·12	81·2	81	80·25	78·25							

OBSERVATORY.

ENXADOS ISLAND—RIO DE JANEIRO.

1838.	Barom.	THERMOMETERS.						Photometer.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Att.	Black Wool.	Expos.	Shade.	House.	Water.			Direc.	Force.			
Dec. 14.														
1 A. M.	30·050	79°	77°	78°	77	79°	76°			Calm.	0	Cum. st.	c.	
2 "	·050	79	76	77	77	79	76							
3 "	·042	79	76·5	78	77	79	76						p.	
4 "	·042	79	77	78	77	78·5	76							
5 "	·046	78	76·5	77	77	78	74			N. E^{d}.	1			
6 "	·074	78	77·5	78·5	77·5	78	78							
7 "	·062	78	78·5	78·5	77·5	78	78						c.	
8 "	·084	78	79	78	78	78·5	78	8°	78° 70°					
9 "	·100	78·5	80	78		79·5	78		79° 68°					
10 "	·081	79	80·5	77		80	78	12	79° 71°					
11 "	·074	79	81·8	83		80	78	22	79° 74°	Calm.	0		p.	
12 "	·072	79	86	85		81	79	23	80° 76°	S. S. W.	1			
1 P. M.	·070	80	91·8	86·5		82·5	79	18	80° 70°	Calm.	0		c.	
2 "	·050	80	95	87		84	81	16	80° 70°			Cir.cum		
3 "	·050	80·5	99	84·5		84·5	82	14	81° 70°					
4 "	·040	81	87	83·5		84	80	7	83° 78°					
5 "	29·988	82	83·5	83		83·5	81	5	82° 76°					
6 "	·982	81	83	83		82·5	80	0·5	84° 78°					
7 "	·996	81	77·6	80		80	80						c. d.	
8 "	30·102	81	77·5	80		79·5	79		80° 70°	Var.	1		c. l.	
9 "							79			Calm.	0			
10 "	30·052	80	80	80·5	79·5	80	79							
11 "	·092	80	80	79	79	80	78							
12 "	·003	80	79·5	78	77·5	80	78							
Mean.	30·050	80·86	81·74	80·04	77·63	80·39	78·37							
Dec. 15.														
1 A. M.	30·002	80°	79°	78°	77·8°	80°	77°			Calm.	0	Cumuli.	c.	
2 "	·000	79	79	79	77	80	77			N. E^{d}.	1		d.	
3 "	·000	79	78	78·5	77	80	78						p.	
4 "	·000	79	78	78	77	80	77			Calm.	0			
5 "	29·970	79	79	77	77	78	79						c.	
6 "	·970	79	79	77	77	79·3	79							
7 "	·970	79	85	82	80	80	77							
8 "	·968	80	88	82	84	81	79							
9 "	30·010	82	92	87	90	82	80	16°	82° 70°			Cirrus.		
10 "	·020	81	94	88	86		80	21	83° 70°					
11 "	·018	82	95	88	86·5		80							
12 "	·011	82·5	95·5	87	86		81		84° 74°					
1 P. M.	29·964	83	106	92	93	89	82		84° 71°			Strati.		
2 "	·956	86	107	92·5	90	89	81		88° 66°					
3 "	·930	87	107·5	92·5	90	87	81		87° 73°			Cumuli.		
4 "	·930	87	105	92	89·5	88	82		87° 75°					
5 "	·938	87	92	89	86	83·5	88		85° 68°				b. c.	Clear overhead; cum. in horizon.
6 "	·944	84	86·5	86·5	86	83·5	87		83° 68°					
7 "	·950	84	85	85	84	84	81							
8 "	·960	84	84	84	83	84	87							
9 "	·964	84	81·5	81·5	81·5	83	77		81° 76°	N. W^{d}.	1	Clear.	b.	
10 "	·968	84	81	81	81	83	78							
11 "	30·012	84	80	80	80	82	77							
12 "	29·968	81	80	80	80	81	77							
Mean.	29·975	82·35	82·2	84·06	83·3	82·72	80·08							

OBSERVATORY.

ENXADOS ISLAND—RIO DE JANEIRO.

1838.	Barom.	THERMOMETERS.						Photometer.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Att.	Black Wool.	Expos.	Shade.	House.	Water.			Direc.	Force.			
Dec. 16.														
1 A. M.	29·950	81°	79°	80°	80°	81°	76°			N. W^{d}.	1	Cirri.	b.	
2 "	·950	80	79	79	79	81	78							
3 "	·931	80	78	79	78	82	78							
4 "	·916	80	78	79	78	82	78			N E^{d}.				
5 "	·914	80	80	80	78	83	79							
6 "	·908	81	79	79	77	83	79							
7 "	·921	81	90	84	79	85	77						b. c.	
8 "	·937	81	97	87	84	86	77			Calm.	0	Clear.	b.	
9 "	·950	81	97	87	85	86	80		81° 73°					
10 "	·972	83	105	93	90	84	82		85° 70°			Cirro-st.	c.	
11 "	·976	86	*93·5	92·5	93	86	82							* In shade.
12 "	·976	86	101	94	91	86	82							
1 P. M.		87	108·5	101·3	96	86	79							
2 "		87	97·5	97·5	96·5	84·5	82			S. S. E.	2			
3 "		85	92	92	86	82·2	82				4			
4 "	29·816	83	85·5	88·5	83·5	81	80							
5 "	·880	81·5	84·5	83	86	80·5	79					Cumuli.	c.	
6 "	·892	81·5	82	82	81·5	81	81				3			
7 "	·894	81·5	81	82	81·5	82·5	80		82° 76°	Calm.	0			
8 "	·912	82	80·5	81	80·5	82	80		81° 75°	N. W^{d}.	1			
9 "	·944	82	80	80	80	82	82			Var.	1	Cir. st.		
10 "	·942	81	79·5	80·5	80	82	79		82° 75°					
11 "	·950	81	79	80	80	81	77			Calm.	0			
12 "	·950	80	78·5	79·5	79	81	76			N. W^{d}.	1			
Mean.	29·927	82·16	86·87	85	83·43	82·91	79·37							
Dec. 17.														
1 A. M.	29·940	80°	78°	79°	78·5°	81°	77°			N. W^{d}.	1	Cumuli.	b. c.	
2 "	·940	80	78	79	78	81	76							
3 "	·940	80	77	78·5	77·5	80·5	78		83° 67°	Calm.	0			
4 "	·950	80	77	78	77	81	80							
5 "	·916	80	81	79	79	81·5	79							
6 "	·932	79·5	86	79·5	81·5	81	79	10°	79° 70°			Cirri.		
7 "	·956	80	92	81·5	81	81·5	78							
8 "	·960	80	98	86·5	84	82	79							
9 "	·980	81	95	86·5	84	83	79							
10 "	·980	83	99	91	83	83·5	79			W^{d}.	4	Nimbus	c. t.	
11 "	·980	81	84	83	80	80	80		80° 75°		2			
12 "	·976	81	82.5	81·5	80	80	78			S. E.	3	Cum. st.	c. p.	
1 P. M.	·962	80	83	81·3	81·3	80	78		78° 70°				c.	
2 "	·958	81	81·3	80·3	81	81	76							
3 "	·952	81	83·8	80·3	81	82	76			Var.	1			
4 "	·952	81	85	82·5	83·5	81·5	77						p. c.	
5 "	·950	80	81	81	80	81	77							
6 "	·950	79	78	78	77	80	77		79° 74°					
7 "	30·000	78	77·5	78	77	80	78			S. S. W.	2	Nimbus	c.	
8 "	·028	78	75	76	77	80·5	78		79° 74°					
9 "	·042	79	75	77	77	80	79			W^{d}.			d.	
10 "	·042	78	75	77	77	80	79							
11 "	·046	78·5	75	77	77·5	80	79							
12 "	·034	78	75	76	76	79·5	79							
Mean.	29·973	79·87	82·17	80·29	79·5	80·89	78·12							

OBSERVATORY.

ENXADOS ISLAND—RIO DE JANEIRO.

1838.	Barom.	THERMOMETERS.						Photometer.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Att.	Black Wool.	Expos.	Shade.	House.	Water.			Direc.	Force.			
Dec. 18.														
1 A. M.	30·020	78°	75°	76°	76°	78°	77			S. W^{d}.	2	Cumuli.	c.	
2 "	·020	78	75·5	76	75·5	78·5	77				1	Nimbi.		
3 "	·008	78	75	76	75	78	77			East.	1		d.	
4 "	·008	78	75	76	75	78	78							
5 "	·014	78	74	74·5	75	79	78			N. E.		Cum. st.	c.	
6 "	·012	78	75	76	76	79	78			Calm.	0			
7 "	·100	78	76	78	78	80	78							
8 "	·200	78	80·5	81·5	81	80	78							
9 "	·060	79	77	78	78	80	78		79° 74°					
10 "	·066	78	75	76	77	79·5	79			W^{d}.	1		r.	
11 "	·066	78	76	75	76	80	78							
12 "	·066	78	78	77·5	78	79	78		80° 74°	S. E^{d}.	2		c. p.	
1 P. M.	·054	78	77	79	77	79	78							
2 "	·040	78	77·5	77	77		76							
3 "	·036	76	74	74	73·5	78	76							
4 "	·030	76	74	74	74	78	75		78° 74°	Var.	1			
5 "	·034	76	74·5	75	75	78	74		78° 70°					
6 "	·014	77	74·5	75	76	79	74					Cum. st.		
7 "	·022	77	74·5	76	76	79	74						d.	
8 "	·022	77	75·5	76	76	79	74							
9 "	·042	78	75	76	76	79	76			Calm.	0		c. p.	
10 "	·064	78	75	77	76·5	79	74							
11 "	·066	78	75	77	76·5	79	77							
12 "	·066	78	75	77	76	78	77							
Mean.	30·047	77·66	75·56	76·39	76·25	78·86	76·62							
Dec. 19.														
1 A. M.	30·020	78°	75°	77°	76°	78°	74			N^{d}.	1	Cloudy.	d.	
2 "	·008	77	75	76	76	78	72			N. E^{d}.			c.	
3 "	·008	77	74·5	76	76	78	73			N^{d}.		Nimbi.	d.	
4 "	·008	77	74·5	76	76	78	74							
5 "	·008	77	75	76	76	78	76			E^{d}.	2		c. m.	
6 "	·008	77	75·5	76·5	75·5	78	77							
7 "	·004	77					77							
8 "		78	76·5	78	76·5	78·5	78						c. f.	
9 "	30·026	77	78	80	78	79	78		80° 74°		1			
10 "	·052	79	77	79	81	80	78			Calm.	0		c.	
11 "	·050	79	77	79	81	80	78		81° 67°	S. S. E.	1	Cum. st.	c. p.	
12 "	·050	79	81·5	80	82	80	77						d.	
1 P. M.	·052	79	81	80	80	80	78		83° 76°		2		c. p.	
2 "	·040	79	83	79	78·5	79·5	77							
3 "	·028	79	83	79	78·5	79·5	79		81° 79°					
4 "	·028	79	83·5	80	78	79·5	78							
5 "	·025	79	82	80·5	80	79·5	78				3			
6 "	·000	79	80·5	80·5	80	79·5	78				1		c.	
7 "	29·988	79	78	78	77	79	78		80° 76°	Calm.	0			
8 "	·994	79	78	78	79	79	76			S. E^{t}.	2			
9 "	30·001	79	78	78	78	79	77							
10 "	·038	79	77	77	77	79	76							
11 "	·038	78	77	77	77	79	77		79° 74°					
12 "	·022	78	77	77	77	79	78							
Mean.	30·022	78·25	78·15	78·15	78	79	76·75							

OBSERVATORY.

ENXADOS ISLAND—RIO DE JANEIRO.

1838.	Barom.	THERMOMETERS.						Photometer.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Att.	Black Wool.	Expos.	Shade.	House.	Water.			Direc.	Force.			
Dec. 20.														
1 A. M.	29·982	78°	77°	77°	77°	79°	76°			Calm.	0	Nimbi.	c. u.	
2 "	·964	78	77	77	77	79	74							
3 "	·964	77	75	76	76·5	78	76							
4 "	·964	77	75	76	76·5	78	76						c.	
5 "	·964	77·5	75·5	76	76·5	78	76							
6 "	·964	78	80	78	77·5	79	77			Var.	1			
7 "	·994	79	81	79·5	78·5	79·5	77			N^{d}.	1			
8 "	·996	79	82	80·5	80	80	75							
9 "	30·026	79	87	83	80	80	79		80° 72°					
10 "	·044	79	96	81	84	81	79			S^{d}.		Cir. stra.	b. c.	
11 "	·044	80	110	90	86	81	80							
12 "	·046	80	96	90		81	80		84° 75°					
1 P. M.	·046	81	102·5	92	90	83·5	81		84° 75°		2			Clear overhead.
2 "	·040	81	100·5	93·5	92	84	80							
3 "	·000	81	110	97	92	85	80							
4 "	29·998	84	107	92	91	84	80			S. S. E.	2	Clear.	b.	
5 "	·966	83	94·5	90	88·5	84	82							
6 "	·980	83	85	85	84	84	82							
7 "	·984	83	83·5	84	83	83	82				4			
8 "	·900	82	82·5	83	82	83	80							
9 "	30·000	82	82	83	82	82·5	80				2			
10 "	·000	81	81	82	80	81·5	77							
11 "	29·998	80·5	80·5	81	80	81·5	77			Var.	1			
12 "	·992	80	79	80	79	81	76							
Mean.	29·994	80·12	87·49	83·85	82·34	81·28	78·41							
Dec. 21.														
1 A. M.	29·984	79·5°	77°	78°	77°	80°	74°			Var.	1	Clear.	b.	
2 "	·972	79·5	76·5	77	76	80	74							
3 "	·972	79	76	77	76	79·5	75							
4 "							75			Calm.	0			
5 "	29·978	78	77	78	70·5	79	74							
6 "							74			Var.	1			
7 "							75							
8 "	30·022	80	92	85	84	81·5	75		81° 68°	Calm.	0			
9 "	·018	80	107	90	84·5	82	76							
10 "	·000	82	108	91	90	82·5	78							
11 "	·000	82	107	93	90	83	81							
12 "	29·974	83	101	95	93·5	85	80							
1 P. M.	·980	85·5	105·8	95	94·3	85·5	83			S. E^{d}.	1			
2 "	·958	86·5	109	97	94	85·5	82		86° 76°				b. c.	Cumuli in horizon.
3 "	·932	87	105·5	96	92	85·5	82			S. S. E.	2			
4 "	·920	86	99	92·5	90	85	86							
5 "	·920	86	98·3	92	87	85	78							
6 "	·902	85	91·5	88·5	87	85	80							
7 "	·905	84	86	84	86	83	78							
8 "	·930	83	81·5	82	86	81	78							
9 "	·956	81	79·5	80	80	80	80		84° 76°	Var.	1	Clear.	b.	
10 "	·970	82	81	82	81·5	80	77							
11 "	·976	82	80	81	80	81	80			Calm.	0			
12 "	·972	82	80	81	80	82	80		83° 76°	N. W^{d}.	1			
Mean.	29·963	82·52	91·35	86·42	84·71	83·38	78·12							

OBSERVATORY.

ENXADOS ISLAND—RIO DE JANEIRO.

1838.	Barom.	THERMOMETERS.						Photometer.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Att.	Black Wool.	Expos.	Shade.	House.	Water.			Direc.	Force.			
Dec. 22.														
1 A. M.	29·964	81°	79·5°	80·3°	79°	82°	80°			N. W^{d}.	1	Cirrus.	b. c.	
2 "	·970	80	78·5	79·5	79	81	80							
3 "	·976	80·5	78	79	78·5	80	80							
4 "	·980	80	78	79	78	81	78							
5 "	·982	79	78	79	78	82	74							
6 "	30·018	80	85	81·5	84	81·5	80							
7 "	·020	80	89	85	88	81·5	80					Clear.	b.	
8 "	·028	80	95	88	88	82	80		81° 68°					
9 "	·032	82	102	90	89	83	82		83° 70°	Calm.	0			
10 "	·014	83	117	95	96	84	85							
11 "	·018	83	113	94	95·5	84·5	86							
12 "	·000	86	103	96·5	97	85·5	84		86° 69°	E^{d}.	1			
1 P. M.	29·998	88	100	90	97·5	85·5	79		88° 70°					
2 "	·950	87	100	91	95·5	85·5	76							
3 "	·940	86	100	91	95·5	85·5	82		88° 68°	S. E^{d}.	2			
4 "	·948	86·5	99	91	94	86	84		88° 70°					
5 "	·942	86	94	89·5	91·5	86	76				3			
6 "	·944	85	86·5	86	86·5	85	76							
7 "	·948	84	85	85	85	84	79		86° 74°		1			
8 "	·962	83	81	82·5	81	83·5	79							
9 "	·966	83	81·5	82	81	84	79							
10 "	·984	83	82	81·5	81	84	79		85° 74°	N^{d}.	2			
11 "	·980	83	81	81	82	83·5	81							
12 "	·988	83	86	80	81	83	81		84° 76°					
Mean.	29·981	83	90·25	85·72	86·73	83·74	80							
Dec. 23.														
1 A. M.	29·968	82°	80°	80	81°	83°	80°			N^{d}.	2	Clear.	b.	
2 "	·968	82	80	81	81	83	80							
3 "	·976	81	81	80	81·5	82·5	79							
4 "	·998	80·5	80	80	80·5		80			N. E^{d}.	1			
5 "	·998	80	81	81	81		82							
6 "	30·032	81·5	84·5	81	81		81							
7 "	·038	82	90·5	84	86		78							
8 "	·048	82	93	86	88		82							
9 "	·042	82·5	102	86	91		83		87° 78°					
10 "	·018	83	104	94	92	87	82		88° 78°					
11 "	·010	83	103	96	92	85	82			E^{d}.	3	Clear.		
12 "	·010	83	96	94	87	86	85							
1 P. M.	·010	84	97	94	87	88	84			S. E^{d}.	4			
2 "	·010	84	98·5	94·5	88	88	83							
3 "	·000	84	90	90	87	85	82							
4 "	29·998	83	88	86	86	83	88				3			
5 "	·984	82	88	85	82	81·5	76				2			
6 "	30·000	82	87	82	82	81·5	77			W^{d}.	1			
7 "	·022	81	85	82	82	81·5	75							
8 "	·042	81	83	82	82	81·5	72			S. W^{d}.	2	Cum. st.	b. c.	
9 "	·042	82	82	82	82	81·5	76			N. W^{d}.				
10 "	·042	82	82	82	82	82	78			Calm.	0	Clear.	b.	
11 "	·044	81	80	81	80	82	78							
12 "	·040	80·5	79	79	79	82	80							
Mean.	30·014	82·04	88·1	85·1	84·2	83·55	80·12							

OBSERVATORY.

ENXADOS ISLAND—RIO DE JANEIRO.

1838.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Expos.	Shade.	House.	Cellar.	Well.	Water.		Direc.	Force.		
Dec. 24.														
1 A. M.	30·034	80°	79°	79°	79°	82°			77°		W^{d}.	1	Clear.	b.
2 "	·040	80	79	79	79	82			79					
3 "	·030	80	77	77	77	82			80					
4 "	·040	80	77	77	77	82			80				Hazy.	b. m.
5 "	·046	80	77	77	77	82			79				Clear.	b.
6 "	·064	80	82	81	79	82			74					
7 "	·070	80	87	82	80	82			75		Calm.	0		
8 "	·090	81	90·5	83·5	83	82·5			75					
9 "	·090	81	91·5	87·5	87	83			81					
10 "	·110	82	90	88	83	79·5	76·5°	76°	79		S. E^{d}.	1		
11 "	·122	81	91·5	89·5	82·5	79	76·5	76	79					
12 "	·114	80	88	87	81	78·5	76·5	76	80	81° 74°	S. S. E.	3		
1 P. M.	·104	82	90	88	82	78	76·5	76	79					
2 "	·072	80	86	85	80	78	76·5	76	77					
3 "	·056	80	83	84	80·5	78·5	76·5	76	77	81° 74°				
4 "	·040	79	81	81	80	81	76·5	76	76					
5 "	·062	79	81	81	79·5	78	76·5	76	76				Cirrus.	b.
6 "	·062	78	79	79	78	78	76·5	76	76					
7 "	·062	78	78	78	77	78	76·5	76				2		
8 "	·062	78	78	78	77	78	76.5	76						
9 "	·070	77												
10 "	·070	78	75	75	76·5	78	76·5	76				1		
11 "	·070	79	75	75	76	78	76·5	76						
12 "	·086	79	75	75	75	78	76·5	76		79° 72°				
Mean.	30·069	79·66	82·19	81·15	79·39	79·9	76·5	76	77·61					
Dec. 25.														
1 A. M.	30·078	77°	74°	74°	74°	78°	76°	76°	72°		S. E^{d}.	2	Clear.	b.
2 "	·086	76	74	74	74	78	76	76	72					
3 "	·064	76	73·5	74	74	78	76	76	76					
4 "	·064	76	73	74	74	78	76	76	76		E^{d}.	1		
5 "	·064	76	73	74	74	78	76	76	74		Calm.	0		
6 "	·064	76	80	79	76	78	76	76	76					
7 "	·070	76	85	81	80	79	76	76	76					
8 "	·100	77	86	83	80·5	80	76	76	76					
9 "									76					
10 "	30·118	80	91	86	84·5	81·5	76·5	76	76		Var.	1		
11 "	·120	80	88·5	85·5	80	79	78	76	75		S. S. E.	3		
12 "	·110	79	88	83	79·5	79	76·5	76	73	82° 76°		4		
1 P. M.	·110	78	86·3	84·3	79	78	76·5	76	73					
2 "	·100	77·5	85·3	83	78	76·5	76	76	75					
3 "	·086	78	89	85·5	80	77·5	76·5	76	75			5		
4 "	·068	78	81	81·5	80	78	76·5	76	78	80° 70°		4		
5 "	·176	78	82·5	81·5	79	78	76	76	77			2		
6 "	·088	78	83·5	81	79	78	77	77	77					
7 "	·100	78	79	79·5	78	77·5	77	77	76		N. W^{d}.	1		
8 "	·100	78	79·5	79·5	78	78·5	76·5	77	76	79° 74°				
9 "	·100	77	78	79	78	78	77	77	76					
10 "	·114	77	74	74·5	74	77	76·5	77	76		N. E^{d}.	2		
11 "	·112	76	74	74	74	77	76	77	76					
12 "	·130	76	73·5	73·5	73·5	77	76	77	76	78° 74°			Cum. st.	c.
Mean.	30·096	77·4	80·5	79·31	77·43	78·15	76·34	76·3	76·2					

OBSERVATORY.

ENXADOS ISLAND—RIO DE JANEIRO.

1838.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Att.	Black Wool.	Expos.	Shade.	House.	Cellar.	Water.		Direc.	Force.			
Dec. 26.														
1 A. M.	30·180	76°	73·5°	74°	73·5°	77°	76°	75°		N^{d}. & E^{d}.	2	Cum. st.	c.	
2 "	·126	76	74·5	74	73·5	77	76	75						
3 "	·122	76	74	75	74	77	76	77						
4 "	·120	76	74	74·5	74	77	76	77	78° 72°					
5 "	·120	76	73·5	74·5	74	77	76	77						
6 "	·150	76	76·5	76·5	76	77	76	77			1			
7 "	·168	76	79	77	77	78	76	77						
8 "	·186	78	81	80	79	78	76	76	79° 69°					
9 "	·200	79	97	85	81·5	79	76·5	77						
10 "	·200	78	94·5	87·5	84·5	77	76·5	77		S. W^{d}.				
11 "	·200	77	82·5	82	77·5	76	76·5	79	77° 71°	S. E^{d}.	2			
12 "	·200	77	85	84·5	77·5	75·5	76	77	77° 70°					
1 P. M.	·172	77	86	84	76·5	76·5	76·5	76		S. S. E.	3			
2 "	·150	76	84·5	83	76·5	76·5	76·5	78				Clear.	b.	
3 "	·152	76	84	82	77	76	76·5	78						
4 "	·154	76	83	82	77	76	76	78			4			
5 "	·152	75·5	82	81	77	76	76	76						
6 "	·160	75·5						77						
7 "	·170	75·5						77						
8 "	·200	75						77			2			
9 "	·200	75						76						
10 "	·200	75						76	77° 71°		1	Cirri.	b. c.	
11 "	·200	75	76	76	76	75	75	74	77° 71°					
12 "	·200	75	74	74	73·5	75	75	74		Calm.	0			
Mean.	30·170	76·14	81·39	79·28	77·65	76·6	76	76·58						
Dec. 27.														
1 A. M.	30·200	75°	74°	74°	74°	76°	75°	76°		Calm.	0	Clear.	b.	
2 "	·200	75	73	73	74	76	75	76	77° 71°					
3 "	·200	75	73	73·5	73	76	75	76						
4 "	·210	75	72	72	71·5	76	75	77						
5 "	·230	75						77						
6 "	·252	75·5						77				Cirrus.	b. c.	
7 "	·300	75·5	80	77	77	76	75	79	77° 69°			Cir. stra.		
8 "	·300	76	98·6	83	79	77	76	79						
9 "	·310	77	96	84·5	82	78	76	80	79° 68°			Cumuli.	c.	
10 "	·318	78	109	89·5	82·5	78·5	76	80					b. c.	
11 "	·346	79	94	88	80	78	76	82	80° 71°	S. E^{d}.	2			
12 "	·320	79	84·8	83·8	80	78·5	76	82	80° 70°					
1 P. M.	·320	79	85	84	82	78·8	76·2	82		E^{d}.	3			Cum. in horizon;
2 "	·300	81	88	89	83·5	79	76·5	82	80° 69°					cirri overhead.
3 "	·288	81	86	86	84	80	76	82			4			
4 "	·276	80	83·8	83·8	82	80	76·2	81	81° 69°	N. E^{d}.		Nimbi.	c.	
5 "	.250	79	79	80	79	79	76·5	80				Clear.	b.	
6 "	·276	79						79			3			
7 "	·290	78	76	76	76	77	76	78	79° 65°	Calm.	0			
8 "	·300	77	76	76	76	76·5	76	78						
9 "	·300	77	76	76	76	76·5	76	78						
10 "	·300	77	75	75	75	76	76	76		N. E^{d}.	2			
11 "	·290	76	74	74	73	73	76	76			3	Cirrus.	b. c.	
12 "	·274	76	73	73	74	75	75	76	75° 65°					
Mean.	30·277	77·31	82·2	80·53	77·78	78·6	75·73	78·7						

OBSERVATORY.

ENXADOS ISLAND—RIO DE JANEIRO.

1838.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Att.	Black Wool.	Expos.	Shade.	House.	Cellar.	Water.		Direc.	Force.			
Dec. 28.														
1 A. M.	30·270	75°								S. E^{d}.	4	Cirri.	b.	
2 "	·265	75							79° 64°		2			
3 "	·260	75										Clear.		
4 "	·264	74·5								N^{d}.	1			
5 "	·276	76							77° 71°					
6 "	·300	75												
7 "	·320	75								Calm.	0			
8 "	·320	76							77° 67°			Cirri.		
9 "	·336	77						88°						
10 "	·350	78	86·5°	83·5°	79°	79	76	78	80° 70°	S. S. E.	3	Clear.		
11 "	·336	78	89	87	81·5	79	76	80						
12 "	·324	79	89	87	83	79	76	80	80° 71°					
1 P. M.	·272	80	89	88	84	79	76	80						
2 "	·260	80	91	89·5	84	80	76	80						
3 "	·244	80	85	84	82	79	76·5	80	79° 66°					
4 "	·206	79·5	84	83	82	80	76·5	79			4			
5 "	·206	80·5				79·3	76	79			2			
6 "	·200	80·5				81		79	82° 68°		1			
7 "	·200	80						80						
8 "	·200	80						80		N. W.	3	Nimbi.	c.	
9 "	·242	78						80	79° 70°					
10 "	·238	78	76	76	75	78·5	76	79						
11 "	·240	77	76	76·5	76	77	75	76						
12 "	·228	77						77	79° 68°					
Mean.	30·264	77·66	85·05	83·83	80·72	79·16	76°	79·68						
Dec. 29.														
1 A. M.	30·188	76°	75°	75°	75°	78°	76°	78°		N. W.	2	Cum. st.	c.	
2 "	·174	76	75·5	75	75	78	75·5	77						
3 "	·170	76	74	74	74	77·5	75·5	76				Cirri.		
4 "	·166	76	74·5	74	73	78	75·5	76					b.	
5 "	·190	78	75	79	75	79·8	76	79		Calm.	0			
6 "	·190	78	82	79	79	79·8	76	79	78° 68°					
7 "	·190	78	83	80	78	80	76	79						
8 "	·140	78	83	80	78	80	76	79						
9 "	·250	78	87	84	81	80	77	79	79° 72°					
10 "	·214	80	92	87	81	81·2	76	79		S. E^{d}.	1			
11 "	·200	81	101·5	91	85·5	81	76	79	80° 70°					
12 "	·162	81	97·5	91·5	84	81	76·5	79			3	Cum. in horizon.	b. c.	
1 P. M.	·162	81	96	90	85	81	76·5	81	82° 69°					
2 "	·138	81	91·5	88·8	84	80	76·5	81			4			
3 "	·090	81	94·5	90·5	85	79·5	76·5	80	83° 69°			Cumuli.	c.	
4 "	·082	81	89	88	84	80	76	80						
5 "	·060	82	90	88	85	80	76	80						
6 "	·060	81	85	84	85	80	76	81	82° 72°		2			
7 "	·084	81	81	81	80	80	75·5	81		Calm.	0			
8 "	·090	81	80·5	80·5	80	80	76	80	84° 72°	Var.	1			
9 "	·100	80	80·5	80·5	80	80	76	79		Calm.	0			
10 "	·102	80	80·5	80·5	80	80	76	79						
11 "	·102	80	79	79	79	80	75·5	80		W^{d}.	2	Cum. st.		
12 "	·090	80	78·5	79	78	80	75·5	79	82° 72°					
Mean.	30·141	79·4	84·41	82·47	80·14	79·78	76°	79·16						

OBSERVATORY.

ENXADOS ISLAND—RIO DE JANEIRO.

1838.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Att.	Black Wool.	Expos.	Shade.	House.	Cellar.	Water.		Direc.	Force.			
Dec. 30.														
1 A. M.	30·084	79°	78°	78°	77·5°	80°	75	78°		W^{d}.	2	Cum. st.	c.	
2 "	·076	79	77·5	78	78	80	75	78	80° 72°					
3 "	·072	78	77	77·5	77	80	75	79						
4 "	·042	78	77	77	77	80	75	79	79° 70°					
5 "	·062	77	76·5	76·8	76·5	79	75	79		Calm.	0	Clear.	b.	
6 "	·090	77	77·5	77·5	77	80	75	80						
7 "	·090	78	87	81	80	80	75	80						
8 "	·100	79	90	83·5	81	80	75	80	80° 70°					
9 "	·102	81	108	92	87	80·5	75	81						
10 "	·100	82	96	92	89	81	75	80						
11 "	·102	83	103	93	92	81	76·5	82	74° 76°				b.	
12 "	·102	84·5	110	96·5	92·5	82	76·5	82						
1 P. M.	·100	85·5	104	95	91·5	83·5	76	80		S. E^{d}.	3			
2 "	·072	86	95	95	90	83·5	76	78	86° 78°					
3 "	29·989	85	90	89		83·5	76·7	82						
4 "	·989	85				83		79						
5 "	·988	84·5	90	89	90	83	76·5	80	86° 70°			Cir.cum	c.	
6 "	·988	84				83		80						
7 "	30·001	83				83		80			2			
8 "	·000	83	83	84	84	83	76·5	80						
9 "	·000	82·5	83	83·5	84	82·5	76	80	82° 74°					
10 "	·000	82·5	83	83·5	83·5	82·5	76	80						
11 "	·000	82·5	83	83	83	82	76	80		Calm.	0	Clear.	b.	
12 "	·000	81	83	83·5	83	82	76	79	82° 73°					
Mean.	30·047	81·66	88·14	85·15	83·67	81·58	75·13	79·41						
Dec. 31.														
1 A. M.	30·019	80°	76·5°	76·5°	77°	82°	76°	77°		Calm.	0	Clear.	b.	
2 "	·019	80	76	77	78	82	76	77						
3 "	·019	80	77	78	78	82	76	79		N. E^{d}.	2			
4 "	·019	79	77	78	78	82	76	80						
5 "	·000	79	77	77·5	77·5	80·5	76	81						
6 "	·005	79	87·5	81	80	81	76	80	79° 70°					
7 "	·005	79	93	83		81·5	76	80						
8 "	·066	80	103	87	82·5	81·5	76	81						
9 "	·076	80	101	89	85	82	76·5	82						
10 "	·070		108	94	88	83	76·5	81		E^{d}.	1			
11 "	·072	85·3	108	95·5	93	83	76·5	81	87° 72°					
12 "	·074	88				84·5		84			2			
1 P. M.	·062	89				84·5		80	90° 71°			Cumuli.	b. c.	
2 "	·050	85				84		78		S. E^{d}.	3			
3 "	·016	85·5	93	91·5	88	84		75	90° 77°					
4 "	·002	85·5	92	92	90	84		77			4			
5 "	·012	85	91	91	90	84·5		77	86° 61°			Cirrus.	b.	
6 "	·020	85	88	88	87	84		78						
7 "	·034	84·5	81·5	81·5		84		80	83° 68°		3			
8 "	·046	83	81	81		83		80						
9 "	·046	82·5	81	81		83		80	83° 65°		2			Photometer 11°.
10 "	·050	82	79	79		82		80		Calm.	0	Clear.		" 8°.
11 "	·060	82	79	79		82		80						
12 "	·054	82	79	79		82		80						
Mean.	30·037	82·62	87·07	83·77	83·71	82·75	76·13	79·5						

OBSERVATORY.

ENXADOS ISLAND—RIO DE JANEIRO.

1839.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Att.	Black Wool.	Expos.	Shade.	House.	Cellar.	Water.		Diree.	Force.			
Jan. 1.														
1 A. M.	30·032	81°	78°	78°	78°			76°		N. W^{d}.	2	Clear.	b.	
2 "	·030	80	77	78	78			76						
3 "	·030	80	77·5	78	77			76						
4 "	·024	79·5	76	76	76			75		Calm.	0			
5 "	·024	79	76	76	76			80		E^{d}.	1			
6 "	·026	79	82	82	82			80						
7 "	·030	78·5	91	87	87			78						
8 "								80		Calm.	0			
9 "								80	84° 74°					
10 "								79		E^{d}.	1	Cum. st.	b. c.	
11 "	30·050	83						80						
12 "	·060	83·5						80	84° 73°	S. S. E.	3	Cirri.	b.	On the top of Corcovado, at noon, barom. 27·782; therm. att. 91°.
1 P. M.	·034	80						80						
2 "	·004	79						78	78° 71°		4			
3 "	29·972	76						78						
4 "	·952	76						76						
5 "	·930	78·5	80·5	80·5	79	79·5	76·5	76			3			
6 "	·980	77	77	77	77	79	76	77		Calm.	0	Clear.		
7 "	·990	77·5	75·5	76	76	79	76	76					b. l.	
8 "	30·000	78	75·5	75	76	79	76	78	80° 65°					
9 "	·036	77·5				79·5		78	84° 70°			Nimbus	b. l. c.	
10 "	·064	78				79·5		78	78° 58°				c. l.	
11 "	·082	78				79·5		76						
12 "	·080	78	77	77	77	78	76·5	75						
Mean.	30·017	78·9	79·41	78·33	78·25	79·12	76·2	77·75						
Jan. 2.														
1 A. M.	30·066	78°	74·5°	75°	74°	78°	75°	78°		N. E^{d}.	2	Nimbus	c.	
2 "	·052	76	73	73	73	76·5	76	76	80° 70°		4			
3 "	·050	75	72	72	72·5	75	75	74			2			
4 "	·028	74·5	72	73	73	75	75	74		Calm.	0	Strati.	b. c.	
5 "	·023	74	72	73	73	75	75	72						
6 "								74	77° 68°					
7 "	30·046	77	84	78	78	77·5	75·5	77		Var.	1			
8 "	·052	77·5	86	80	79	79	75·5	77		Calm.	0			
9 "	·050	78	87	82	82	80	76	77						
10 "	·060	79	83·5	84	85	80·9	76·5	77					c. u.	
11 "	·060	80	84·5	84	85	80·9	76·5	75				Nimbi.		
12 "	·062	80·4	90	86	82	81·2	76·7	75	82° 77°				p.	
1 P. M.	·060	81·5	88	84·5	80·5	82	76·7	75					c.	
2 "	·050	80·5	85	85	79	80	76·5	72	80° 70°	S. E^{d}.	4	Cumuli.	c. u.	
3 "	·028	78	81	81	80	78·5	76·5	79						
4 "	·028	78	79·5	80	78·5	78	76	75	77° 74°	N. E^{d}.			c. q.	
5 "	·072	80	77	77	75	78	76	75		E^{d}.	5		q. r. t. l.	
6 "	·092	76·2	76	76	73	78	76	75	76° 74°		4			
7 "	·098	76					76	75		S. E^{d}.	3		c. d.	
8 "	·112	76					76	75					c.	
9 "	·084	76·3				77·8	76	76			2		p.	
10 "	·088	75·8				77·5	76	76		N. E^{d}.	3			
11 "	·064	75·8				77·5	76	76	78° 75°				b. c.	Clear overhead.
12 "	·062	76				77·5	76	76						
Mean.	30·060	77·34	80·62	79·17	77·23	78·28	75·93	75·45						

OBSERVATORY.

ENXADOS ISLAND—RIO DE JANEIRO.

1839.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Att.	Black Wool.	Expos.	Shade.	House.	Cellar.	Water.		Direc.	Force.			
Jan. 3.														
1 A. M.					73.5°	77°	76°	76°		N. E^{d}.	1	Clear.	b.	
2 "					75	77	76	76	79° 74°					
3 "					75	77·5	76	76						
4 "					74	77·5	76	74		S. W^{d}.				
5 "					75	77·5	76	74						
6 "					78	78	76	74						
7 "					81	78	76	74						
8 "					81	78	76	74				Cirrus.	b. c.	
9 "	30·009	80°			87	79	76	75	80° 73°					
10 "			92°	87°	84	80	76	77						
11 "			92·5	88·5	84·5	81	76	79	82° 74°	S. E^{d}.	2			
12 "			90	84	83	85	76	79	83° 74°					Stopped observing on shore.
1 P. M.								78						
2 "								76			3			
3 "	30·007	80						77						
4 "								77						
5 "								76			2			
6 "								76						
7 "								76						
8 "								76						
9 "	30·007	77						76		Calm.	0	Clear.	b.	
10 "								76						
11 "								76						
12 "								76						
Mean.	30·008	79	91·5	86·5	79·08	78·79	76	76						

OBSERVATORY.

ENXADOS ISLAND—RIO DE JANEIRO.

DAILY MEANS.

1838–1839.	Barometer.	THERMOMETERS.						
		Att.	Black Wool.	Expos.	Shade.	House.	Cellar.	Water.
Dec. 7th.	29·917	73·75°	80·27°		74·2°	74·5°		72·58°
" 8th.	29·905	75	84·5		79·28	78·17		75·25
" 9th.	29·975	74·75	77·41	74·16°	76·15	76·71		73·79
" 10th.	30·232	74·7	77·13	75·18	74·25	75·44		73·8
" 11th.	30·170	76·37	80·42	78·45	77·3	76·34		75·66
" 12th.	30·094	77·91	86·92	81·74	80·09	79·68		77·87
" 13th.	30·079	79·37	84·12	81·2	81	80·25		78·25
" 14th.	30·050	80·86	81·74	80·04	77·63	80·39		78·37
" 15th.	29·975	82·35	88·2	84·06	83·3	82·72		80·08
" 16th.	29·927	82·16	86·87	85	83·43	82·91		79·37
" 17th.	29·973	79·87	82·17	80·29	79·5	80·89		78·12
" 18th.	30·047	77·66	75·56	76·39	76·25	78·86		76·62
" 19th.	30·022	78·25	78·15	78·15	78	79		76·75
" 20th.	29·994	80·12	87·49	83·85	82·34	81·28		78·41
" 21st.	29·963	82·52	91·35	86·42	84·71	83·38		78·12
" 22d.	29·981	83	90·25	85·72	86·73	83·74		80
" 23d.	30·014	82·04	88·1	85·1	84·2	83·55		80·12
" 24th.	30·069	79·66	82·19	81·15	79·39	79·9	76·5°	77·61
" 25th.	30·096	77·4	80·5	79·31	77·43	78·15	76·34	76·2
" 26th.	30·170	76·14	81·39	79·28	77·65	76·6	76	76·58
" 27th.	30·277	77·31	82·2	80·53	77·78	78·6	75·73	78·7
" 28th.	30·264	77·66	85·05	83·83	80·72	79·16	76	79·68
" 29th.	30·141	79·41	84·41	82·47	80·14	79·78	76	79·16
" 30th.	30·047	81·66	88·14	85·15	83·67	81·58	75·13	79·41
" 31st.	30·037	82·62	87·07	83·77	83·71	82·75	76·13	79·5
Jan. 1st.	30·017	78·9	79·41	78·33	78·25	79·12	76·2	77·75
" 2d.	30·060	77·34	80·62	79·17	77·23	78·28	75·93	75·45
" 3d.	30·008	79	91·5	86·5	79·08	78·79	76	76
Mean.	30·053	78·85	83·68	81·35	79·41	79·66	75·98	77·54

OBSERVATORY.

ENXADOS ISLAND—RIO DE JANEIRO.

RESULTS.

BAROMETER.		THERMOMETER ATTACHED.	
Mean of 28 days,	30·053	Mean of 28 days,	78·85°
Highest mean,	30·277	Highest mean,	83
Lowest mean,	29·905	Lowest mean,	73·75
Highest point,	30·350	Highest point,	89
Lowest point,	29·816	Lowest point,	71
BLACK WOOL THERMOMETER.		**THERMOMETER EXPOSED TO SUN.**	
Mean of 28 days,	83·68°	Mean of 26 days,	81·35°
Highest mean,	91·5	Highest mean,	86·5
Lowest mean,	75·56	Lowest mean,	74·16
Highest point,	117·	Highest point,	101·3
Lowest point,	70·	Lowest point,	70
THERMOMETER IN SHADE.		**THERMOMETER IN HOUSE.**	
Mean of 28 days,	79·41°	Mean of 28 days,	79·66°
Highest mean,	86·73	Highest mean,	83·74
Lowest mean,	74·2	Lowest mean,	74·5
Highest point,	97·5	Highest point,	89
Lowest point,	70·5	Lowest point,	71·4
THERMOMETER IN CELLAR.		**TEMPERATURE OF WATER.**	
Mean of 11 days,	75·98°	Mean of 28 days,	77·54°
Highest mean,	76·5	Highest mean,	80·12
Lowest mean,	75·13	Lowest mean,	72·58
Highest point,	78	Highest point,	88
Lowest point,	75	Lowest point,	70

SEA-BREEZE.

	Begins.	Ends.		Begins.	Ends.
1838.			1838.		
Dec. 7th.	5 A. M.	7 P. M.	Dec. 22d.	3 P. M.	9 P. M.
" 8th.	11 "	6 "	" 23d.	Noon.	5 "
" 9th.	9 "	7 "	" 24th.	10 A. M.	4 A. M.
" 10th.	10 "	2 A. M.	" 25th.	11 "	6 P. M.
" 11th.	10 "	7 P. M.	" 26th.	11 "	11 "
" 12th.	2 P. M.	5 "	" 27th.	11 "	3 "
" 13th.	Noon.	5 "	" 28th.	10 "	7 "
" 14th.	None.		" 29th.	10 "	6 "
" 15th.	None.		" 30th.	Noon.	11 "
" 16th.	2 P. M.	7 "	" 31st.	2 P. M.	9 "
" 17th.	11 A. M.	2 "	1839.		
" 18th.	11 "	4 "	Jan. 1st.	10 A. M.	6 "
" 19th.	10 "	6 "	" 2d.	2 P. M.	9 "
" 20th.	9 "	10 "	" 3d.	11 A. M.	8 "
" 21st.	Noon.	9 "			

U. S. SHIP VINCENNES.

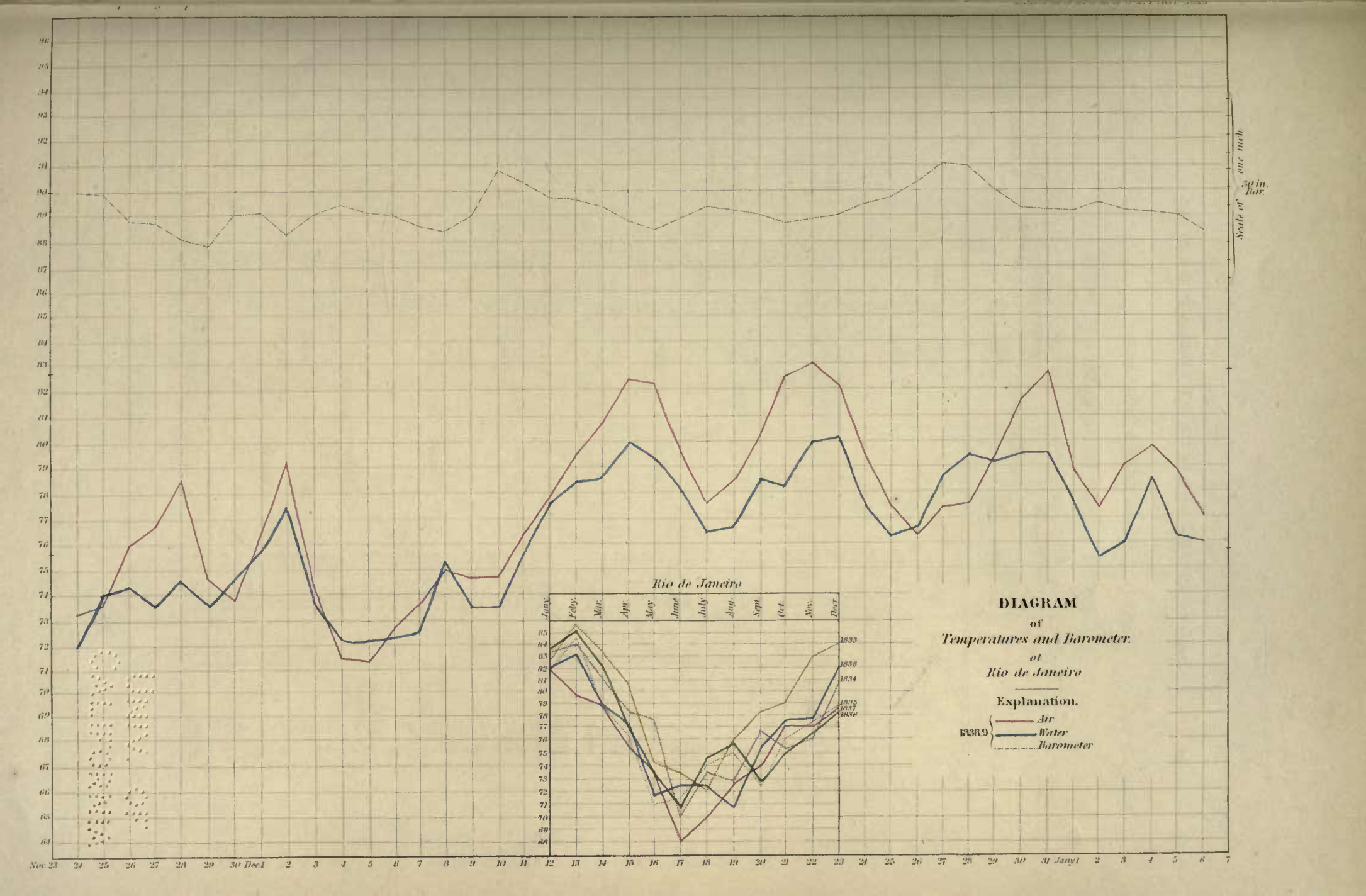
RIO DE JANEIRO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 4.												
1 A. M.			77°	77°				S. W.	1	Clear.	b.	
2 "			76	77								
3 "			78	78								
4 "			76	78				Calm.	0			
5 "			77	78								
6 "			78	78								
7 "			78	78								
8 "			78	78								
9 "			80	79	81°	29·940						
10 "			82	79								
11 "			84	79								
12 "			84	80								
1 P. M.			87	80				S. S. E.	3			Getting instruments on board.
2 "			84	82								
3 "	Rio de Janeiro.		85	82	81°	29·910			5			
4 "			88	77								
5 "			83	79					3			
6 "			79	77								
7 "			78	77								
8 "			78	77						Cirrus.	b. c.	
9 "			76	77		29·990			2			
10 "			76	77								
11 "			76	79						Clear.	b.	
12 "			77	78				Calm.	0			
Mean.			79·79	78·46	81°	29·916						
Jan. 5.												
1 A. M.			74°	76°				W^{d}.	1	Clear.	b.	
2 "			74	76								
3 "			73	75		29·900						
4 "			73	75								
5 "			74	75								
6 "			75	74								
7 "			76	74								
8 "			76	75						Cirrus.	b. c.	Preparing for sea.
9 "			82	80	82°	29·900		E^{d}.	1			
10 "			82	80								
11 "			87	79				S. E^{d}.	2			
12 "			84	79								
1 P. M.			80	77								
2 "			80	78					4			
3 "	Rio de Janeiro.		80	78	80°	29·890				Clear.	b.	
4 "			78	77								
5 "			78	74					2			
6 "			78	74								
7 "			80	74								
8 "			80	74				N. W.	1			
9 "			78	74								
10 "			77	75								
11 "			76	78								
12 "			76	77								
Mean.			78·95	76·16	81	29·896						

U. S. SHIP VINCENNES.

RIO DE JANEIRO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 6.												
1 A. M.			76°	77°				S^{d}.	2	Clear.	b.	
2 "			76	78								
3 "			74	76		29·800						
4 "			74	76				Var.	1			
5 "			75	76								
6 "			76	76								
7 "			80	79								
8 "			82	79								
9 "			82	79	79°	29·860						Got under way.
10 "			82	79				S. S. E.	3			
11 "	Rio de Janeiro.		84	79								
12 "			83	79								
1 P. M.												
2 "												
3 "			80	74	77°	29·760						Anchored near Raza Island, in 14 fathoms water.
4 "								S^{d}.				
5 "									2			
6 "			80	75						Cirrus.	b. c.	
7 "			80	75								
8 "			76	75								
9 "			76	72		29·800		S. E^{d}.				
10 "			75	70						Clear.	b.	
11 "			74	75								
12 "			73	73				Calm.	0			
Mean.			77·5	76·1	78	29·805						
Jan. 7.												
1 A. M.			74°	73°				Calm.	0	Clear.	b.	
2 "			74	73								
3 "			74	73		29·800						
4 "			75	72				Var.	1			
5 "			80	71								
6 "			81	72								
7 "			83	72				S^{d}.				
8 "			83	72								
9 "			83	73	78°	29·850						
10 "			84	73								
11 "			85	73								
12 "			86	74								
1 P. M.			80·5	72						Cirrus.		
2 "			80·5	71				N. W^{d}.	2			
3 "			79	70	75°	29·760						
4 "	Off Raza Island.		78	70						Clear.		
5 "			77	78								
6 "			77	78				Calm.	0			
7 "			79	79								
8 "			78	79				N^{d}.	1			
9 "			79	78		29·800						Got under way.
10 "			79	78								
11 "			77	78								
12 "			77	78								Anchored in 20 fathoms water.
Mean.			79·29	74·16	76·5	29·802						


Rio de Janeiro
Jany. Feby. Mar. Apr. May June July Aug. Sept. Oct. Nov. Decr.
1833
1836
1834
1835
1837
1836
DIAGRAM
of
Temperatures and Barometer.
at
Rio de Janeiro
Explanation.
Air
Water
Barometer
Scale of one inch
30 in. Bar.
Nov. 23 24 25 26 27 28 29 30 Dec 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 Jany 1 2 3 4 5 6 7

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ANIMALS

U. S. SHIP VINCENNES.

FROM RIO DE JANEIRO TO RIO NEGRO.

1839.	Lat. South.	Long. Weat.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 8.												
1 A. M.			77°	72°				N^{d}.	1	Clear.	b.	
2 "			77	71								
3 "			78	70		29·780		Calm.	0			
4 "			77	70				N^{d}.	1			
5 "			77	78								
6 "			75	78				Calm.	0			
7 "			80	79				N^{d}.				
8 "			78	79								
9 "			77	78	76°	29·780						Got under way, squadron in company.
10 "			77	78								
11 "			77	78				W^{d}.				
12 "	22° 54′	42° 57′	77	78								
1 P. M.			79	76								
2 "			78	76					2			
3 "			80	76	81°	29·820						
4 "			81	76				Var.	1			
5 "			81	76								Lost sight of land.
6 "			79	76								
7 "			78	77				W^{d}.	3			
8 "			78	78						Cum. st.	c.	
9 "			78	79	71°	29·900						
10 "			78	79							c. m.	
11 "			75	77								
12 "			74	77							c. u.	
Mean.			77·75	76·33	76°	29·820						
Jan. 9.												
1 A. M.			74°	77°				W^{d}.	5	Nimbus	q. r. l.	Steering to the southward.
2 "			74	77								
3 "			75	78	74°	29·800			3			
4 "			75	78							c. p.	Rain ·6 in.
5 "			78	78								
6 "			78	78						Cum. st.	c.	
7 "			78	79				S^{d}.	2			
8 "			79	79								Steering to the southward and eastward.
9 "			78	78	78°	29·910	80° 75°			Clear.	b.	
10 "			78	78					3			
11 "			78	79								
12 "	24° 02′	42° 58′	79	79								
1 P. M.			79	79				S. S. E.				Steering to the southward and westward.
2 "			79	79								
3 "			78	79	76°	29·850	79° 74°					
4 "			78	79						Strati.	c.	
5 "			78	78					4			
6 "			77	78				S. E^{d}.				
7 "			78	79								
8 "			78	79								
9 "			76	78	74°	29·950	80° 73°					
10 "			76	77						Clear.	b.	
11 "			75	79								
12 "			75	77								
Mean.			77·12	78·29	75·5	29·877						

U. S. SHIP VINCENNES.

FROM RIO DE JANEIRO TO RIO NEGRO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 10.												
1 A. M.			75°	76°				S. E^{d}.	3	Cirri.	b. c.	Course S. 37° W.
2 "			75	76								
3 "			75	77	74°	29·970	75° 65°					
4 "			74	76								
5 "			75	77								
6 "			75	77						Cir.cum	c.	
7 "			75	77								
8 "			75	77								
9 "			76	79		30·000	79° 65°	S.E. by S.				
10 "			76	79								
11 "			78	79						Clear.	b.	
12 "	25° 11′	44° 36′	78	79								
1 P. M.			77	80								
2 "			78	80				S. E^{d}.				Squadron in company.
3 "			79	80	75°	30·000	77° 64°					
4 "			77	79					4	Cirrus.	c.	
5 "			77	79								
6 "			77	79								
7 "			76	79								
8 "			75	79								
9 "			75	78	72°	29·930	77° 69°			Clear.	b.	
10 "			74	78				E. S. E.	5			
11 "			74	78								
12 "			74	78								
Mean.			75·83	78·16	73·66	29·975						
Jan. 11.												
1 A. M.			74°	78°				E. S. E.	4	Clear.	b.	Course S. 37° W.
2 "			74	78								
3 "			73	78	72°	29·960	75° 65°					
4 "			74	78								
5 "			73	78								
6 "			77	78								
7 "			76	78				E^{d}.				
8 "			76	78								
9 "			77	77	77°	29·990	79° 65°	N. E^{d}.				
10 "			78	78								
11 "			78·5	77·5								
12 "	27° 28′	45° 47′	79	77								
1 P. M.			82	78								
2 "			81	78				E. N. E.				Squadron in company.
3 "			78	78		29·920	80° 69°					
4 "			78	78								
5 "			78	78								
6 "			76	78					3			
7 "			76	78								
8 "			76	78								
9 "			76	78	70°	29·950	78° 76°			Cir. stra.	b. c.	
10 "			76	78								
11 "			76	78								
12 "			76	78								
Mean.			76·6	77·99	73	29·955						

U. S. SHIP VINCENNES.

FROM RIO DE JANEIRO TO RIO NEGRO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 12.												
1 A. M.			75°	75°				E. N. E.	3	Clear.	b.	Course S. 31° W.
2 "			75	75								
3 "			74	75	72°	29·800	75° 68°					
4 "			73	75								
5 "			75	77								
6 "			75	77								
7 "			76	77								
8 "			76	77								
9 "			76	77	75°	29·850	79° 66°					
10 "			76	77				N. E.				
11 "			77	77·5								
12 "	29° 47′	47° 12′	78·5	78·5								
1 P. M.			84	80				N. N. E.				
2 "			83	79					2			
3 "			81	81	79°	29·850	80° 67°					
4 "			80	79				N. E.				
5 "			79	79								
6 "			76	78				N.E.byE.	3			
7 "			76	78								
8 "			75	78								
9 "			75	78	74°	29·850	77° 69°					
10 "			74	77					2	Hazy.	b. m.	
11 "			74	78								
12 "			74	78								
Mean.			76·56	77·54	75	29·837						
Jan. 13.												
1 A. M.			74°	77°				N. E.	1	Cum. st.	c. m.	
2 "			74	76								Course S. 35° W.
3 "			74	76	74°	29·810	Rain.			Nimbus	u. r.	
4 "			74	77					2			
5 "			74	77								
6 "			74	77								
7 "			74	77				S. E^{d}.				
8 "			74	77								
9 "			72	75	66°	29·850	Rain.				q. r.	
10 "			71	74					6			
11 "			68	74								
12 "	30° 56′	47° 50′	66	74								
1 P. M.			65	75				S. E.			r.	
2 "			68	75					5			
3 "			67	75	64°	29·900	Rain.	S.E. by S.				
4 "			67	75					3			
5 "			67	75						Cum. st.	c. d.	
6 "			67	75					1			
7 "			67	75							c.	
8 "			66	75					2			
9 "			68	75	66°	29·900	75° 65°					
10 "			68	74								
11 "			68	74								
12 "			68	74								
Mean.			69·89	75·33	67·5	29·865						

U. S. SHIP VINCENNES.

FROM RIO DE JANEIRO TO RIO NEGRO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 14.												
1 A. M.			69°	74°				S.E. by S.	3	Cum. st.	b. c.	Steering to the eastward.
2 "			69	74								
3 "			68	74	64°	29·900	73° 65°					
4 "			68	73·5				S. E^{d}.	2			
5 "			68	74								
6 "			68	74								
7 "			68	74								
8 "			69	74								
9 "			69	74	66°	30·000	74° 54°		3	Clear.	b.	
10 "			69	74								
11 "			71	75								
12 "	32° 00′	49° 03′	72	74								
1 P. M.			69	74				S^{d}.				
2 "			70	75								
3 "			69	75	69°	30·000	73° 45°	S. by E.				Steering to the S. W.
4 "			69	74								
5 "			68	74								
6 "			68	74								
7 "												Sounded with 200 fathoms line; no bottom.
8 "												
9 "			69	74	67°	30·020	73° 58°	S. S. E.				
10 "			69	74								
11 "			68	74				S. E.	4			
12 "			66	74					3			
Mean.			68·59	74·09	66·5	29·980						
Jan. 15.												
1 A. M.			66°	71°				S. E.	3	Clear.	b.	Steering to the eastward.
2 "			67	73								
3 "			67	73	69°	30·000						
4 "			65	72								
5 "			67	73								
6 "			68	74								Steering to the southward and westward.
7 "			68	75								
8 "			68	75								
9 "			66	75	68°	30·040	71° 50°					
10 "			69	75				S. S. E.	2			
11 "			69	75								
12 "	32° 41′	50° 15′	70	75				S. by E.				
1 P. M.			70	73				S. E.	3			
2 "			70	73								
3 "			70	73	72°	30·050	72° 56°					
4 "			70	74					2			
5 "			70	74					3			
6 "			69	70								
7 "			68	75								
8 "			68	75								
9 "			68	72	66°	30·100		S.E. by S.				
10 "			68	73								
11 "			68	72				S. E.				
12 "			66	72								
Mean.			68·12	73·83	68·75	30·047						

U. S. SHIP VINCENNES.

FROM RIO DE JANEIRO TO RIO NEGRO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 16.												
1 A. M.			67°	74°				S. E^{d}.	3	Clear.	b.	Steering to the S.S.W.
2 "			67	74								
3 "			66	74	64°							
4 "			66	74								
5 "			65	74								
6 "			66	74								
7 "			68	74								
8 "			71	74								
9 "			72	73	74°	30·120		S.E. by E.	2			
10 "			72	73								
11 "			71	72								
12 "	33° 40′	50° 57′	79	72								
1 P. M.			68	74				E. S. E.				
2 "			68	74								Saw a vessel.
3 "			70	74	69°	30·120	73° 60°					
4 "			70	74								
5 "			70	74								
6 "			69	74						Cum. st.	b. c.	
7 "			70	74								Sounded in 80 fathoms water; blue mud.
8 "			69	73								
9 "			68	72	66°	30·120	73° 58°	E^{d}.				
10 "			67	72								
11 "			66	72					3			
12 "			66	72·5								
Mean.			68·33	73·37	68·25	30·120						
Jan. 17.												
1 A. M.			66°	73°				E^{d}.	3	Cum. st.	b. c.	Course S. ¼ W.
2 "			66	74								
3 "			66	74	66°	30·000			2			
4 "			66	74								
5 "			66	74				N. E^{d}.				
6 "			68	73								
7 "			67	73						Nimbi.	c.	
8 "			69	74					3			
9 "			70	74	70°	30·000	70° 68°					
10 "			70	74							c. d.	
11 "			72	74				N. by E.				Saw three strange sails.
12 "	34° 56′	51° 35′	72	74								
1 P. M.			73	73						Clear.	b.	
2 "			72	72								
3 "			71	72	69°	30·000	75° 55°					
4 "			71	72								Spoke whaling barque Leander.
5 "			71	73				N. E^{d}.				
6 "			71	73								Noticed the discoloration of the water from the Rio de la Plata.
7 "			69	73								
8 "			69	72					4			
9 "			69	72	68°	30·100	78° 68°		3			
10 "			68	72								Spoke a Danish brig from Montevideo to Falkland Islands.
11 "			68	72						Cumuli.	b. c.	
12 "			68	72								
Mean.			69·08	73·04	68·25	30·025						

U. S. SHIP VINCENNES.

FROM RIO DE JANEIRO TO RIO NEGRO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 18.												
1 A. M.			68°	72°				N. E.	4	Cum. st.	b. c.	Course S. by W.
2 "			69	72								
3 "			69	72		30·000	75° 67°					
4 "			69	74·5								
5 "			69	71								
6 "			69	72								
7 "			69	72								
8 "			71	72								
9 "			71·5	72	*76°	30·000	73° 63°		3			*In sun.
10 "			72	72								
11 "			72	72				N. N. E.	4			Spoke an American brig from Montevideo for Boston.
12 "	37° 14′	52° 42′	72	72								
1 P. M.			73	74								
2 "			72	74						Clear.	b.	Sounded in 70 fathoms; no bottom.
3 "			74	73	70°	29·950	70° 60°					
4 "			73	72								
5 "			73	72								
6 "			70	69								Patches of discoloured water.
7 "												
8 "												
9 "			70	70	68°	29·970	75° 70°			Strati.	c. l.	
10 "			69	70								
11 "			65	62								
12 "			65	63				N^{d}.			c. f.	Sounded with 120 fathoms; no bottom.
Mean.			70·20	71·11	71·33	29·980						Water much discoloured.
Jan. 19.												
1 A. M.			67°	66°				N.	4	Cumuli.	c.	Course S. W.
2 "			64	64							F.	
3 "			60	64	62°	29·810	71° 63°	N. W.				Sounded in 90 fathoms; no bottom.
4 "			62	60								
5 "			62	60				S. W.				
6 "			60	59·5								Steering to the southeastward.
7 "			60	58								
8 "			61	58				SW. by W				
9 "			57	56		29·880	65° 63°					
10 "			57	56				S. W.			f.	
11 "			58	56								
12 "	38° 55′	54° 30′	59·5	57								Sounded with 90 fathoms; no bottom.
1 P. M.			62	61							c.	
2 "			60	58				S. W.				Saw a number of Cape pigeons, and some whales.
3 "			56	55	54°	29·900	58° 48°		5			
4 "			56	55								
5 "			57	53						Clear.	b.	
6 "			56	55								
7 "			55	56								
8 "			55	56								
9 "			55	55	52°	29·920	62° 49°					
10 "			55	55								
11 "			53	56					4			Sounded with 100 fathoms; no bottom.
12 "			55	56								
Mean.			58·43	57·08	56	29·877						

U. S. SHIP VINCENNES.

FROM RIO DE JANEIRO TO RIO NEGRO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 20.												
1 A. M.			54°	59°				S^{d}.	2	Clear.	b.	Steering to the eastward.
2 "			53	59								
3 "			53	59	52°	29·910	60° 50°	Var.	1			
4 "			53	58				Calm.	0			
5 "			54	59								
6 "			54	59								Water much discoloured.
7 "			59	59				W. N. W.	1			
8 "			59	57				W. by N.	3			Course S. S. W.
9 "			60	57	58°	29·900	64° 54°					Sounded with 120 fathoms; no bottom.
10 "			59	57								
11 "			59	58								
12 "	39° 16′	55° 34′	61	57								
1 P. M.			61	58								
2 "			62	58				N. W.	4			Saw several whales.
3 "			62	58	61°	29·800	66° 56°					
4 "			65	60								
5 "			65	62				S^{d}.	3			Steering to the southeastward.
6 "			65	62								Sounded in 55 fathoms; bottom white sand.
7 "			60	57				S. by E.				
8 "			62	59								
9 "			58	56	54°	29·850	67° 57°					
10 "			57	54								
11 "			56	54								
12 "			55	53								
Mean.			58·66	57·83	56·25	29·865						
Jan. 21.												
1 A. M.			55°	54°				S. by E.	2	Clear.	b.	Steering to the southeastward.
2 "			55	54								
3 "			55	54	53°	29·900	61° 58°					
4 "			55	54								
5 "			54	54								
6 "			54	54				S. W^{d}.				Seals and Cape pigeons.
7 "			54	53								
8 "			54	53								Sounded with 100 fathoms; no bottom.
9 "			55	53		30·000	64° 54°					
10 "			56	54				N. W^{d}.	1			Course S. S. W.
11 "			57	55								
12 "	40° 04′	55° 35′	59	56								
1 P. M.			60	54								
2 "			60·5	54.5								
3 "			60	54·5	*70°	29·990	64° 54°		3			*In sun.
4 "			58·5	54·5								
5 "			58	54·5					4			
6 "			58	54								
7 "			57	55								
8 "			53	55								
9 "			57	55	56°	29·900	65° 60°		2			
10 "			57	54								
11 "			58	55							b. w. l.	
12 "			57	57					3			
Mean.			56·54	54·37	59·66	29·947						

U. S. SHIP VINCENNES.

FROM RIO DE JANEIRO TO RIO NEGRO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Black Wool.	No Wool.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 22.														
1 A. M.			60°	56°						N. W.	3	Clear.	b. w.	Course W. by S.
2 "			60	57										
3 "			60	58	59°			29·820	64° 62°		2		f.	
4 "			61	59							1			
5 "			60·5	59						Calm.	0			
6 "			61	59						S. E^{d}.	2			
7 "			61	59								Clear.	b.	
8 "			62	59						Calm.	0			
9 "			64	60	63°			29·820	64° 54°	S. E^{d}.	2			
10 "			64	61										
11 "			62	61							4			
12 "	40° 05′	56° 52′	62	61							3			
1 P. M.			66	63										
2 "			65	64						S. S. E.	2			
3 "			65	67	62°			29·880	70° 60°					
4 "			65	63							1			
5 "			64	64						E.				
6 "			65	64										
7 "			63	63						N. N. E.				
8 "			63	63										
9 "			62	62	60°			29·900	70° 65°					Sounded with
10 "			62	62						N. N. W.		Cum. st.	c. l.	52 fathoms;
11 "			62	62										no bottom.
12 "			62	62							2		c. l. w.	
Mean.			62·56	61·16	61			29·855						
Jan. 23.														
1 A. M.			62°	64°						N. N. W.	2	Clear.	b. w.	Course W. by S.
2 "			61	63										
3 "			61	63	60°			29·900	67° 60°		1			
4 "			62	64							2			
5 "			60	63									b.	
6 "			60	63										
7 "			65	63·5										
8 "														
9 "			66	63	66°			29·900	73° 65°					
10 "			66	63										Sounded with
11 "			68	64							3			55 fathoms;
12 "	40° 14′	58° 20′	68	67										no bottom.
1 P. M.			69	70		*69°	*65·5°			N. W.				*Both exposed
2 "			67	72		68	66							to the sun.
3 "			67	71	63°	76	68	29·880	70° 64°					
4 "			65	64		84	73							
5 "			64	64		87	70							
6 "			67	64										Sounded in 45
7 "			65	65										fathoms wa-
8 "			64	66										ter; bottom
9 "			65	66	61·5°			29·820	71° 65°					sand and
10 "			64	67										shells.
11 "			64	66						N. N. W.			b. w.	
12 "			66	66										
Mean.			64·6	65·27	62·62	76·8	68·5	29·875						

U. S. SHIP VINCENNES.

FROM RIO DE JANEIRO TO RIO NEGRO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Black Wool.	No Wool.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 24.														
1 A. M.			66°	66°						N. N. W.	3	Clear.	b. w.	Conrse W. S. W.
2 "			65	66										
3 "			65	66	63°			29·800	70° 63°					
4 "			65	65										
5 "			65	65·5									b.	
6 "			67	65·5										
7 "			68	65·5							2			
8 "			69	65·5										
9 "			68	66	*74°	78°	73°	29·800	72° 65°					*In the sun.
10 "			70	66		72	67							
11 "			68	67		69	65·5							
12 "	40° 52′	61° 03′	71	67·5		76	67							
1 P. M.			71	68		79	71				3			
2 "			72	68		79·5	69·5			North.				
3 "			70	68	67°	80	70	29·800	77° 67°					
4 "			70	68		71	67				4			Sounded in 31 fathoms; gray sand and shells.
5 "			69	67		67·5	66			N. E.				
6 "			67	67										
7 "			68	66										
8 "			67	66									b. w.	
9 "			67	65	64°			29·780	67° 64°					
10 "			66	66										
11 "			67	66										Sounded in 27 fathoms; gray sand.
12 "			67	67										
Mean.			67·83	65·98	67	73·66	68·44	29·795						
Jan. 25.														
1 A. M.			67°	66°						North.	4	Cum.	c.	Course W. S. W.
2 "			67	66							3		c. w.	
3 "			67	66	58°			29·750	65° 62°					
4 "			67	66										Sounded in 23 fathoms.
5 "			67	66							2		c. m.	
6 "			68	65						N. W.				Land in sight to the westward.
7 "			68	66										
8 "			70	67						NWbyN.				
9 "			76	68	68°			29·750	70° 65°					
10 "			75	69		80°	70°							
11 "			75	68		79	71							
12 "	41° 05′	62° 47′	75	67		81·5	72·5			Var.	1		c. p.	
1 P. M.			71	68		86·5	79·5						c.	
2 "			72	67·5		89	75							
3 "			74	67·5	74°	87	74	29·740	75° 65°	N. E^{d}.		Nimbus		
4 "			74	68		80	73						c. u.	Anchored in 8 fathoms water.
5 "			74	68		75	70			Var.				
6 "			74	68		73	67			S. W^{d}.			p. t. l.	
7 "			68	63							2		c. t. l.	
8 "			68	65										
9 "			68	66	66°			29·730	72° 64°		1	Cum. st.	c. t. l.	
10 "			66	65									b. c.	
11 "			66	67										
12 "			68	65										
Mean.			66·05	66·59	66·5	81·22	72·44	29·742						

U. S. SHIP VINCENNES.

AT ANCHOR OFF THE RIO NEGRO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 26.												
1 A. M.			66°	68°				N. W^{d}.	2	Clear.	b.	
2 "			66	68				N. by W.				
3 "			67	67·5	66°	29·780	72° 65°					
4 "			67	68						Cum. st.	c.	
5 "			65	67				S. W.	3			
6 "			65	67								
7 "												
8 "												
9 "			65	66	62°	29·800	73° 65°	S. S. W.				Employed surveying.
10 "			65	66								
11 "			67	66								
12 "			67	66					1			
1 P. M.			68	65						Clear.	b.	
2 "			71	68				E. S. E.	2			
3 "			70	67		30·000	69° 65°					
4 "			69	66								
5 "			68	68								
6 "			65	68								
7 "			63	68				E^{d}.				
8 "			63	68								
9 "			63	67	60°	29·800						
10 "			60	66							b. m.	
11 "			63	66				N. E^{d}.				
12 "			62	66								
Mean.			65·68	66·93	62·66	29·845						
Jan. 27.												
1 A. M.			62°	67°				N. E^{d}.	2	Clear.	b. m.	
2 "			62	67								
3 "			62	68	60°	29·800		N. W^{d}.	1			
4 "			63	69				Var.				
5 "			63	68				Calm.	0		f.	
6 "			63	67								
7 "			63	67								
8 "												
9 "			68	69	62°	29·830	70° 65°	S. S. E.	2			
10 "			68	69				E. N. E.	3	Cum. st.	b. c.	Employed surveying.
11 "			67·5	69								
12 "			67·5	70								
1 P. M.			68	70								
2 "			68	69								
3 "			70	69	70°	29·800	75° 70°					
4 "			70	69								
5 "			68	72								
6 "			69	73						Clear.	b.	
7 "			69	66								
8 "			68	68					4			
9 "			67	66	66°	29·800		N. E.				
10 "			67	66					5			
11 "			67	66					4			
12 "			67	66				N. by W.				
Mean.			66·39	67·39	64·5	29·807						

At anchor off the Rio Negro.

At anchor off the Rio Negro.

U. S. SHIP VINCENNES.

AT ANCHOR OFF THE RIO NEGRO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Bsrom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 28.												
1 A. M.			66°	67°				N. by W.	3	Stratus.	c.	
2 "			67	66								
3 "					61·3°	29·830						
4 "			66	65								
5 "			62	65					2			
6 "			65	68				E. N. E.	1			
7 "			65	70						Clear.	b.	
8 "			68	72				N. W.				
9 "	At anchor off the Rio Negro.		65	78		29·830	75° 72°					Surveying the bar of the river.
10 "			65	82								
11 "			73	64								
12 "			77	65				N. E.	3			
1 P. M.			79	76					4			
2 "			76	76								
3 "			75	76		29·900	82° 75°		3			
4 "			75	74								
5 "			74	74								
6 "			74	75								
7 "			74	76					4			
8 "			74	72								
9 "			72	68	72°	29·830		N^{d}.				
10 "			70	63						Cum.	c.	
11 "			70	67								
12 "			70	67								
Mean.			70·3	70·78	66·65	29·847						
Jan. 29.												
1 A. M.			71°	68°				N^{d}.	4	Clear.	b.	
2 "			71	68								
3 "			70	68		29·850						
4 "			70	66				S. by W.				Wind shifted very suddenly.
5 "			68	67				N.				
6 "			69	67					3			
7 "			74	68				N. E^{d}.				
8 "			69	67								
9 "			86	69		29·800	79° 70°			Cum.		
10 "			81	74								
11 "			79	72								
12 "			78	71				E^{d}.		Over-cast.		
1 P. M.			78	71								
2 "			77	75								
3 "			78	68		29·750	80° 72°	S. E.	5		g.	
4 "			73	69					3			
5 "			74	67								
6 "			70	69				N^{d}. & E^{d}.				
7 "			70	69								
8 "			70	68								
9 "			68	69		29·740	77° 72°					
10 "			69	67								
11 "			68	68								
12 "			68	70								
Mean.			72·5	68·75		29·785						

U. S. SHIP VINCENNES.

AT ANCHOR OFF THE RIO NEGRO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 30.												
1 A. M.			68°	70°				N. E^{d}.	2	Clear.	b.	
2 "			68	70								
3 "			68	71	66°	29·700	74° 70°					
4 "			68	71								
5 "			68	69								
6 "			69	68								
7 "			70	68								Employed surveying.
8 "			72	69				E^{d}.	3	Over-	F.	Boats returned on ac-
9 "			73	69						cast.		count of thick fog.
10 "			72	69							F. g.	
11 "			73	69								
12 "			73	72					2			
1 P. M.			72	72								
2 "			72	72								
3 "			71	73	65°	29·600						
4 "			71	73								
5 "			68	70								
6 "			68	70					3			
7 "			67	70								
8 "			65	69·5								
9 "			65	70	63°	29·620		E. N. E.				
10 "			65	70								
11 "			64·5	69								
12 "			65	69				S^{d}.	4		F. u.	
Mean.			68·95	70·08	64·66	29·640						
Jan. 31.												
1 A. M.			65°	68°				S. ½ E.	6	Nimbus	c. u.	
2 "			64	68								Heavy sea from the
3 "			65	69	64°	29·650				Clear.	b.	southward.
4 "			65	69					7			
5 "												
6 "									8			Got under way.
7 "												
8 "												
9 "						29·800		S. S. W.				
10 "			62	64								Sounded in 21 fa-
11 "			58	64								thoms water; sand
12 "	41° 15′	62° 14′	60	64								and shells.
1 P. M.			59	63								
2 "			59	63					7			
3 "			61	64		29·800						
4 "			61	64					6			
5 "			61	63·5				S^{d}.	4			
6 "			60	63				East.				
7 "			60	60								Sounded in 18 fa-
8 "			60	60				E. N. E.	3			thoms water, sand
9 "			61	60	58°	29·800		N^{d}.	4			and shells.
10 "			61	61								
11 "			61	61								
12 "			61	61								
Mean.			61·26	63·63	61	29·762						

At anchor off the Rio Negro.

U. S. SHIP VINCENNES.

AT ANCHOR OFF THE RIO NEGRO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 1.												
1 A. M.			66°	66°				N^{d}.	5	Clear.	b.	
2 "			61	65								Sounded in 15 fathoms water; bottom sand.
3 "			61	65	58°	29·750						
4 "			61	65								
5 "			57	65					4			
6 "			59	66								
7 "			61	67								
8 "			65	68								Anchored in 12½ fathoms water.
9 "			68	68		29·720		N. W^{d}.				
10 "			71·5	68·5						Stratus.	c.	
11 "			69	67				S. E^{d}.	5			
12 "			65	67								
1 P. M.			66	68				S.E. by S.	4			
2 "			67	68								
3 "			67	68	61°	29·720	70° 55°					
4 "			66	68						Clear.	b.	
5 "			67	68				S. E.				
6 "			67	66						Cirrus.		
7 "			62	67·5				East.				
8 "			60	66								
9 "			61	66	60°	29·800	70° 62°			Cum. st.	c.	
10 "			61	66								
11 "			61	66				E. by N.				
12 "			61	67								
Mean.			63·77	66·33	59·66	29·747						
Feb. 2.												
1 A. M.			61°	60°				E^{d}.	4	Cum. st.	c.	
2 "			59	65						Clear.	b.	
3 "			59	65	60°	29·880						
4 "			59	65								
5 "			65	65								
6 "			63·5	65								
7 "			65	66								Finished the survey of the entrance of the Rio Negro.
8 "												
9 "			66	67·5	62°	29·890	65° 55°					
10 "			67	67·5				E. N. E.				
11 "			66	68								
12 "			66	68						Stratus.	b. c.	Got under way.
1 P. M.			68	68				N. E.	6			
2 "			61	67								
3 "			61	67	66°	29·850	69° 65°					
4 "			66	68					5			
5 "			64	63								
6 "			65	63								
7 "			61	62								
8 "			61	61					4			
9 "			60	61	60°	29·910						
10 "			60	60						Clear.	b. l.	
11 "			60	60								
12 "			61	61								
Mean.			62·78	64·43	62°	29·882						

At anchor off the Rio Negro.

At anchor off the Rio Negro.

U. S. SHIP VINCENNES.

FROM RIO NEGRO TO ORANGE HARBOUR.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 3.												
1 A. M.			61°	61°				NWbyW	4	Clear.	b. l. w.	Course southeast.
2 "			61	61								
3 "			60	61	58°	29·900						A meteor to the northward.
4 "			59	61								
5 "			60	61				Wd.	3			
6 "			62	62							b.	
7 "			64	63								
8 "			63	63								
9 "			63	63	61°	29·900	69° 64°					
10 "			62	63					4			
11 "			64	63								
12 "	42° 46′	61° 46′	64	64				W. S. W.				
1 P. M.			65	63					3			
2 "			65	63								
3 "			65	63	66°	29·890						
4 "			64	63				S. ½ E.	2			Steering to the southward and eastward.
5 "			64	63								
6 "			64	63								
7 "			61	63				South.				Sounded in 39 fathoms water, gray sand.
8 "			61	63								
9 "			61	63	58°	29·850	66° 60°	Calm.	0			
10 "			61	63				N. Wd.	1		b. w.	
11 "			60	62					2			
12 "			60	62				W. S. W.				
Mean.			62·25	62·5	60·75	29·885						
Feb. 4.												Course south.
1 A. M.			60°	62°				W. S. W.	3	Clear.	b. w.	
2 "			60	62								
3 "			61	62	60°	29·820						
4 "			62	61					4	Cum. st.	c.	
5 "			61	61								
6 "			60	61								
7 "			61	61								
8 "			61	62				S. S. W.				Steering to the S. E.
9 "			62	61	63°	29·820	66° 60°	S. S. E.				Steering to the S. W.
10 "			63	61								
11 "			63	61								
12 "	43° 41′	61° 27′	63	61							c. g.	
1 P. M.			60	61				S.W.byS.	5			
2 "			61	59				S. W.				Steering to the S. E.
3 "			61	60	62°	29·800						
4 "			60	59				S.W.½W.		Stratus.		
5 "			61	58							c. u.	
6 "			60	58								
7 "			58	58					7			
8 "			58	58					9			
9 "			58	59		29·700						
10 "			57	60								
11 "			51	60								
12 "			51	60								
Mean.			59·7	60·25	61·66	29·785						

U. S. SHIP VINCENNES.

FROM RIO NEGRO TO ORANGE HARBOUR.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 5.												
1 A. M.			51°	55°				S. W^{d}.	9	Stratus.	c.	Steering to the southward and eastward.
2 "			51	55								
3 "			51	54	52°	29·700						
4 "			52	54								
5 "			52	54				S. S. W.				
6 "			53	54								
7 "			53	53								
8 "			50	53								
9 "			52	53	51°	29·700			8		c.q.p.	
10 "			50	50								
11 "			50	50					7		c. q.	
12 "	44° 15′	60° 12′	50	50								
1 P. M.			50	51						Clear.	b.	
2 "			50	52								
3 "			51	52	50°	29·750			8			
4 "			51	51				S. W^{d}.				
5 "			52	51					8	Cum. st.	c.	Albatross about the ship.
6 "			50	50								
7 "			48	48								
8 "			48	49								
9 "			47	48	46·3°	29·800			7			
10 "			47	48								
11 "			47	48								
12 "			47	48								
Mean.			50·12	51·29	49·82	29·737						
Feb. 6.												
1 A. M.			49°	50°				S. W.	7	Clear.	b.	Steering to the southward and eastward.
2 "			49	50								
3 "			47	50		29·800						
4 "			48	51					8			
5 "			49	51								
6 "			51	51						Stratus.	c.	
7 "			51	51								
8 "			48	51					7		c. d.	
9 "			50	51	48°	29·800						
10 "			50	51					6		c.	
11 "			50	51								
12 "	44° 23′	58° 32′	51	51								
1 P. M.			50	51·5					5	Clear.	b.	
2 "			50	51·5								
3 "			50	51·5	52°	29·800			4			
4 "			51	51								
5 "			52	52				S. S. W.	3			
6 "			50	52					1			
7 "			49	52				Calm.	0			
8 "			49	52								
9 "			48·5	51·5	48°	29·800						
10 "			48·5	51·5				W. N. W.	2			
11 "			49	52								A halo arouud the moon, 30° in diameter.
12 "			50	52					4			
Mean.			49·58	51·04	49·33	29·800						

U. S. SHIP VINCENNES.

FROM RIO NEGRO TO ORANGE HARBOUR.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 7.												
1 A. M.			51°	50°				N. W.	4	Stratus.	c.	Course S. S. W.
2 "			50	51								
3 "			50	51	50°	29·800						
4 "			50	51								
5 "			50	52					6			
6 "			50	53								
7 "			51	51					7		c. u. r.	
8 "			51	51								
9 "			52	52	51°	29·700						
10 "			53	52								Saw several flocks of birds.
11 "			54	58					6			
12 "	45° 36′	59° 17′	52	49							c.	Passed through two rips.
1 P. M.			55	55								
2 "			55	55				W. N. W.	3		m.	
3 "			56	55	53°	29·520						
4 "			54	51								
5 "			52	50					2			
6 "			52	50								
7 "			51	49				West.			f.	
8 "			51	50								
9 "			51	54	52°	29·500						
10 "			52	54					4	Clear.	b.	
11 "			50	49								
12 "			51	49								
Mean.			51·83	51·75	51·5	29·630						
Feb. 8.												
1 A. M.			51°	49°				West.	3	Hazy.	m.	Course S. by W. ½ W.
2 "			49	49								
3 "			51	49	52°	29·500			4			
4 "			50	49								
5 "			49	49								
6 "			48	48					2	Cum. st.	c.	
7 "			49	49								
8 "			50	50								
9 "			53	50		29·600		S. W.				
10 "			53	50					1			
11 "			52	51								
12 "	46° 39′	59° 41′	52	51				W. N. W.	2	Stratus.	c.	Steering to the southward and eastward.
1 P. M.			51	49								
2 "			52	50				N. W.				Course S. S. W.
3 "			53	50	54°	29·520	62° 57°					
4 "			51	50				N^{d}.	3		c. d.	
5 "			50	50				N. W.				
6 "								Var.	1			
7 "												
8 "			50	50								
9 "			50	50	50°	29·520		South.	2		c.	Steering to the southward and eastward.
10 "			50	50				Calm.	0			
11 "			50	50				S. W^{d}.	2	Clear.	b. w.	
12 "			50	50								
Mean.			50·62	49·67	52°	29·535						

U. S. SHIP VINCENNES.

FROM RIO NEGRO TO ORANGE HARBOUR.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 9.												
1 A. M.			50°	50°				S. W^{d}.	4	Clear.	b. w.	Steering to the southward and eastward.
2 "			49	50								
3 "			49	50	48°	29·600						
4 "			49	50							b.	
5 "			49	50								
6 "			48	50				S. S. W.				
7 "			48	50								
8 "			48	50								
9 "			48	49	50°	29·600		S. W^{d}.	3			
10 "			48	49								
11 "			48	49								
12 "	47° 24′	59° 31′	49	49								
1 P. M.			49	49				S. by W.	2			
2 "			49	49								Saw a vessel.
3 "			50	49	52°	29·600						
4 "			50	50				South.				
5 "			49·5	49·5								
6 "			48	49								
7 "			47·5	49				S. E^{d}.	1			Course S. S. W.
8 "			47	49								
9 "			46	49	46°	29·700		E. S. E.				
10 "			46	49								
11 "			46	49				NE. by N.			b. w.	A very brilliant meteor.
12 "			46·5	48·5					2			
Mean.			47·91	46·45	49	29·625						
Feb. 10.												
1 A. M.			46°	47°				NE. by N.	3	Clear.	b.	Course S. S. W.
2 "			46	47								
3 "			45	48	46°	29·700						
4 "			45	48					4			
5 "			45	47				N. E^{d}.				
6 "			46	47·5								
7 "			51	49				N. N. E.				
8 "			51	49								
9 "			51	49	54°	29·700						
10 "			51·5	49·5					6	Cum. st.	c.	
11 "			51·5	49·5								
12 "	48° 05′	60° 19′	52	50								
1 P. M.			51	50							c. u.	
2 "			51	50				N. N. W.		Nimbus	r.	
3 "			48	49	51°	29·600					c.	
4 "			48	51								
5 "			50	51					5	Clear.		Sounded in 80 fathoms; gray sand.
6 "			51	51								
7 "			50	50				W. ½ N.				
8 "			51	51				W. by S.				Steering to the southward.
9 "			49	49	48°	29·600		SW. by W	4			
10 "			49	49								
11 "			49	49								
12 "			49	49								
Mean.			48·79	49·08	49·75	29·650						

U. S. SHIP VINCENNES.

FROM RIO NEGRO TO ORANGE HARBOUR.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 11.												
1 A. M.			49°	49°				S. W.	4	Clear.	b. w.	Steering to the northward.
2 "			48	49								
3 "			48	50	48°	29·700						
4 "			48	50					3		b.	
5 "			49	50								
6 "			50	50								
7 "			50	50								
8 "			51	51					1			
9 "			50	51	55°	29·900						
10 "			48·5	51								
11 "								Calm.	0			
12 "	48° 49′	62° 14′						N. W^{d}.	2			Course S. W. by S.
1 P. M.			55	52								
2 "			54	53					4			
3 "			55	52	54°	29·900						
4 "			55	52								
5 "			54	52				North.				
6 "			54	52								
7 "			53	52					5			
8 "			53	52								
9 "			52	52	52°	29·900						
10 "			51	52					6			
11 "			51	51								
12 "			50	51						Stratus.	c.	
Mean.			51·27	51·09	52·25	29·850						
Feb. 12.												
1 A. M.			52°	51°				North.	5	Stratus.	c.	Course S. W. by S.
2 "			52	50								
3 "			52	51	52°	29·700						
4 "			52	50								
5 "			52	51				N. N. W.				
6 "			52	50				N. W.				
7 "			52	49·5								
8 "			51	49								
9 "			52	49	53°	29·500						
10 "			51	49				West.	6			
11 "			50	49				SWbyW.				
12 "	50° 33′	65° 37′	50	49					7			Steering to the southward and eastward.
1 P. M.			48	49				S. W.	9		c. d. s.	
2 "			48	49					7			
3 "			48	49	46°	29·600						
4 "			49	49								
5 "			50	49								
6 "			50	49					9	Clear.	b.	
7 "			48	49·								
8 "			47	49						Stratus.	c.	
9 "			47	49	48°	29·650						
10 "			46	49							c. q. h.	A very bright meteor without a tail going to the N. W.
11 "			47	49					8			
12 "			47	49								
Mean.			49·7	49·4	49·75	29·612						

U. S. SHIP VINCENNES.

FROM RIO NEGRO TO ORANGE HARBOUR.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 13.												
1 A. M.			48°	49°				S. W^{d}.	8	Clear.	b.	Steering to the south-east.
2 "			47	48								
3 "			46	48	49°	29·800				Cum.	c.	
4 "			47	48								
5 "			48	48								
6 "			49	49						Clear.	b.	
7 "			50	49								
8 "			50	49								
9 "			50	49		29·700			7			
10 "			51	49								
11 "			50	49								
12 "	52° 12′	65° 04′	51	49								
1 P. M.			51	49				W. S. W.				Course S. by E.
2 "			52	49					6			
3 "			52	48	52°	29·600						Sounded with 100 fathoms; no bottom.
4 "			52	48								
5 "			50	48								Saw a number of albatross and Cape pigeons.
6 "			49	47								
7 "			49	47								
8 "			49	47				W. by N.				
9 "			49	47		29·650			5			
10 "			49	47						Stratus.	c.	
11 "			49	49					6			
12 "			49	49								
Mean.			49·47	48·29	50·5	29·687						
Feb. 14.												
1 A. M.			48°	49°				W. by N.	5	Stratus.	c. q.	Course south.
2 "			49	48								
3 "			49	48	50°	29·500						
4 "			49	48								
5 "			49	48								
6 "			48·5	48								Made land to the southward, — Tierra del Fuego and Staten Island.
7 "			48	48								
8 "			49	48				West.				
9 "			49	48		29·400			7			
10 "			48	47							c. q.	Passed through the Straits of Le Maire.
11 "			45	47								
12 "	54° 10′	65° 53′	45	47								
1 P. M.			55	50				N. W.				
2 "			54	50						Nimbus		Steering to the south-westward.
3 "			54	50	54°	29·250						
4 "			49	50				S. E^{d}.	8			
5 "			46	48				S^{d}.	5		r.	Land in sight to the westward.
6 "			45	48				S. W^{d}.	3			
7 "			47	47				Var.	1			
8 "			47	47				Calm.	0	Cum.	g. d. u.	
9 "			47	47	44°	29·500		Var.	1			
10 "			46	48				W. by N.	2			
11 "			45	47·5						Cum. st.		
12 "			45	47								
Mean.			48·18	48·06	49·33	29·412						

U. S. SHIP VINCENNES.

FROM RIO NEGRO TO ORANGE HARBOUR.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 15.												
1 A. M.			46°	46°				S. W.	3	Clear.	b.	Steering to the southward.
2 "			46	46								
3 "			46	46		29·600						
4 "			45·5	46								Land in sight to the northward.
5 "			45	46					4			
6 "			47	47				W. by N.				
7 "			47	47								
8 "			47	47								
9 "			48	47·5	48°	29·600						
10 "			49	47						Cum. st.	c.	
11 "			48	45					6			
12 "	55° 48′	66° 16′	49	47								
1 P. M.			50	48								
2 "			50	48				W^{d}.	4			
3 "			50	48	48°	29·700			3			
4 "			49	48								
5 "			49	49					1	Clear.	b.	
6 "			49	47								
7 "			49	47								Temp. water at the depth of 445 fathoms, 28°.
8 "			48	46				Calm.	0			
9 "			48	47	45°	29·800		N. W.	1			
10 "			47	45								
11 "			47	45						Hazy.	b. m.	Heavy swell from the southwest.
12 "			48	45								
Mean.			47·81	46·66	47°	29·675						
Feb. 16.												
1 A. M.			49°	46°				N. W.	3	Hazy.	b. m.	Course S. W. by S.
2 "			49	47								
3 "			48	46·5	44°	29·800						
4 "			48	46·5								
5 "			46	47						Clear.	b.	Cape Horn in sight, bearing west.
6 "			48	48								
7 "			48	48				NWbyW				
8 "			49	49								
9 "			49	49	51°	29·800						
10 "			51	49								
11 "			52	49								
12 "	56° 02′	67° 21′	54	50				N. by E.				
1 P. M.			53	47								
2 "			58	47				N. N. W.	4			
3 "			58	50·5	54°	29·600						
4 "			57	47								Cape Horn bearing N. by W.; heavy swell from the westward.
5 "			56	49						Cum. st.	c.	
6 "			55	49								
7 "			55	49							c. d.	
8 "			55	49				N. W.	5			Sounded in 75 fathoms; white sand; temp. water at that depth 46°. Course west.
9 "			54	49		29·650				Stratus.	c.	
10 "			53	49								
11 "			53	49								
12 "			53	49								
Mean.			52·12	48·27	49·66	29·712						

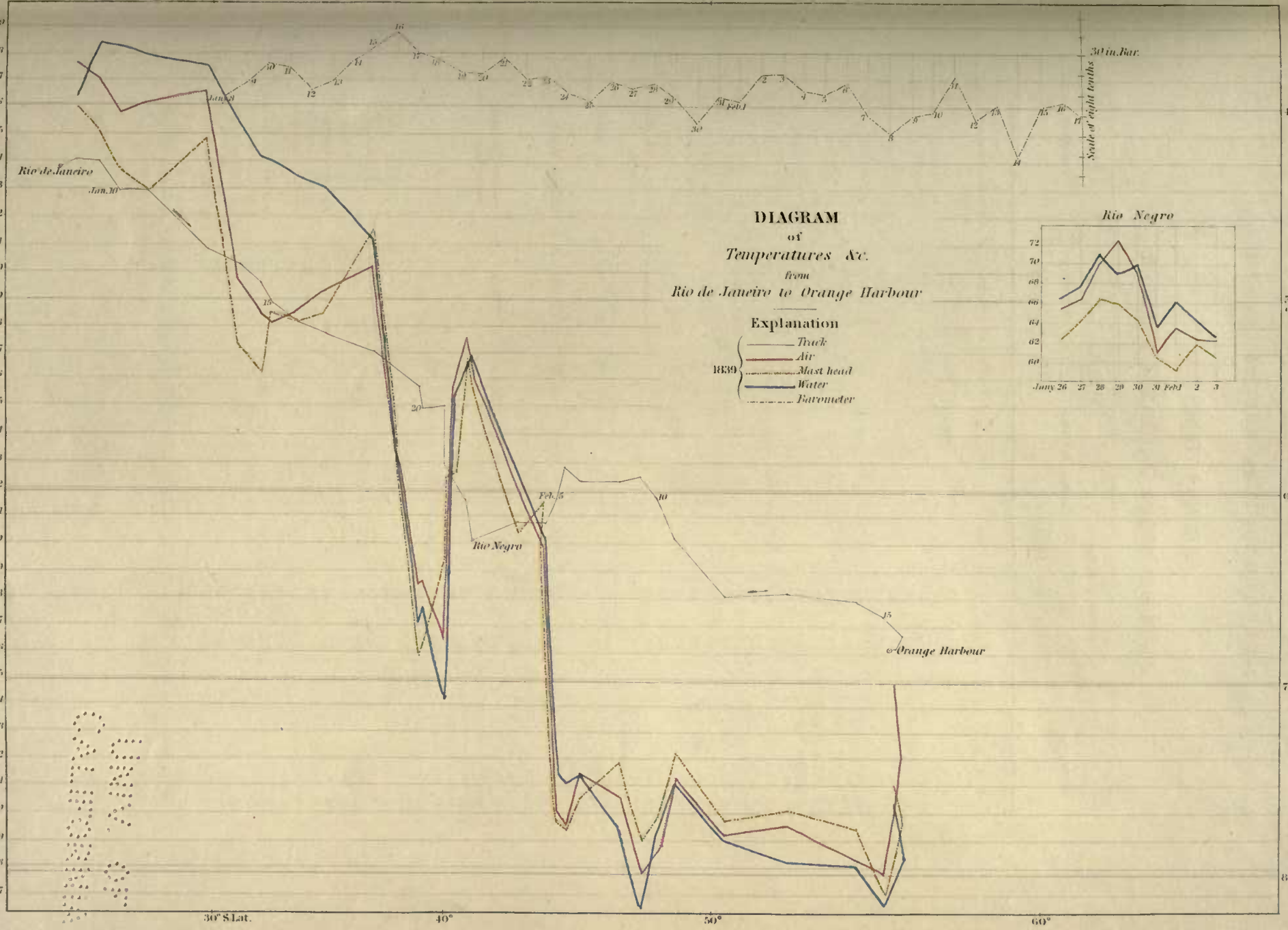
DIAGRAM
of
Temperatures &c.
from
Rio de Janeiro to Orange Harbour
Explanation
1839
Track
Air
Mast head
Water
Barometer
Rio de Janeiro
Jan. 30
Rio Negro
Feb. 5
Orange Harbour
Rio Negro
30 in. Bar.
Scale of eight tenths
40° W. Lon.
50° Lon. W. of Greenwich
60°
70°
80°
30° S. Lat.
40°
50°
60°

U. S. SHIP VINCENNES.

FROM RIO NEGRO TO ORANGE HARBOUR.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 17.												
1 A. M.								Nd.	4	Stratus.	c.	Course west.
2 "												
3 "					54°	29·650						
4 "									3			
5 "												Land in sight.
6 "												
7 "												
8 "										Clear.	b.	
9 "					47°	29·650						
10 "												Very misty to the eastward.
11 "								Baffling.	1			
12 "												Sounded in 43 fathoms; white shells.
1 P. M.	55° 31′	68° 02′	56°	51°								
2 "			55	51				Calm.	0			
3 "			55	51	52°	29·650		N. Ed.	2			
4 "			55	51					3			
5 "			54	51								Beating up for Orange Harbour.
6 "										Cum. st.	c.	
7 "												
8 "												No bottom with 70 fathoms.
9 "						29·650		Var.	1			
10 "												
11 "										Clear.	b.	
12 "												Bottom at 70 fathoms.
Mean.			55	51	51	29·650						
Feb. 18.												
1 A. M.								Ed.	2	Stratus.	c.	
2 "												
3 "						29·650						
4 "												
5 "												
6 "												Anchored in Orange Harbour, in 16 fathoms water.
7 "												
8 "												
9 "					58°	29·600		N. Ed.	1	Clear.	b.	
10 "												
11 "												
12 "												
1 P. M.								Calm.	0			
2 "												
3 "					67°	29·570						
4 "	Orange Harbour.		62°	57°								
5 "			55	55								
6 "			56	55								
7 "			56	55								
8 "			57	55								
9 "			60	55						Cum. st.	b. c.	
10 "			60	55								
11 "			59	55								
12 "			60	55								
Mean.			58·37	55·22	62·5	29·606						

U. S. SHIP VINCENNES.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 19.												
1 A. M.			58°	55°				Calm.	0	Cum. st.	b. c.	
2 "			59	53								
3 "			58	52	56°	29·300						
4 "			58	52								
5 "			54	53				N. E^{d}.	1	Clear.	b.	
6 "			54	53								
7 "			55	52								
8 "			54	52					3			
9 "			53	52	59°		61° 50°					
10 "			53	51				N. W^{d}.	4			
11 "			52	51								
12 "			51	51								
1 P. M.								W^{d}.	6			Peacock and Sea-Gull arrived.
2 "												
3 "					59°	29·300						
4 "									4			
5 "												
6 "								Var.	2			
7 "								E^{d}.	3			
8 "												
9 "					56°	29·300	54° 48°	N. E^{d}.	2			
10 "									3		b. w.	
11 "												
12 "									2			
Mean.			54·91	52·25	57·5	29·300						
Feb. 20.												
1 A. M.			49°	51°				Calm.	0	Clear.	b. w.	
2 "			50	51				S. W^{d}.	2			
3 "			55	51	50°	29·300						
4 "			55	51								
5 "			48	51				Var.	1			
6 "			48	51								
7 "			54	51								
8 "			58	51				S. W.	3			Preparing to send instruments on shore.
9 "			60	52	54°	29·400	60° 40°		4			
10 "			59	52								
11 "			59	52								
12 "			59	52								
1 P. M.			59	52					5	Stratus.	c.	
2 "			58	52					6			
3 "			55	52		29·450	52° 42°					
4 "			54	51							r.	
5 "			53	50						Nimbus	r.	
6 "			49	52								
7 "			47	51								
8 "			49	51								
9 "			45	51		29·680	Rain.		8		q. r.	
10 "			44	51					9			
11 "			44	51					8			
12 "			44	50								
Mean.			48·12	51·25	52	29·457						

Orange Harbour.

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ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 21.												
1 A. M.			44°	50°				W.S.W.	9	Stratus.	q.c.	
2 "			44	50								
3 "			44	50	44°	29·750						
4 "			44	50					8		q.p.	
5 "			44	50								
6 "			44	50					7		q.d.	
7 "			44	50								
8 "			44	50				S.W.			q.	
9 "			48	51	45°	29·750	47° 35°				q.g.	
10 "	Orange Harbour.		48	51								
11 "			48	51								
12 "			49	51					8		q.d.	
1 P. M.			51	51								
2 "			51	51								
3 "			51	51	47°	29·680	50° 48°			Over-cast.		
4 "			50	51							q.r.	
5 "			49	51						Nimbus		
6 "			43	50								
7 "			43	51								
8 "			49	50								
9 "			48	50	45°	29·680			7			
10 "			48	50					8		q.r.	
11 "			48	50								
12 "			48	50								
Mean.			47·83	50·41	45·25	29·715						
Feb. 22.												
1 A. M.			47°	51°				S.W.	8	Over-cast.	q.r.	
2 "			47	50								
3 "			48	51	48°	29·680			7			
4 "			48	51								
5 "			54	51					6		r.	
6 "			53	51								
7 "			52	51								
8 "			53	51								
9 "			53	51	50°	29·610	49° 46°			Stratus.	c.	Preparing the Porpoise, Peacock, and tenders, for the southern cruise.
10 "			53	51				W.S.W.	5			
11 "			53	51								
12 "			53	51								
1 P. M.			50	50								
2 "			50	50								
3 "			55	50	54°	29·550	54° 50°					
4 "	Orange Harbour.		55	50								
5 "			55	50								
6 "			54	50				Wd.				
7 "			53	50								
8 "			52	50				W.S.W.	4	Clear.	b.	
9 "			51	49	53°		54° 48°					
10 "			50	49								
11 "			51	50								
12 "			51	50								
Mean.			51·7	50·37	51·25	29·614						

U. S. SHIP VINCENNES.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 23.												
1 A. M.			51°	50°				S. W^{d}.	5	Nimbus	q. p.	
2 "			50	50								
3 "			48	50	50°	29·360						
4 "			50	50								
5 "			48	50							c. q.	
6 "			48	50								
7 "			49	50							q. r.	
8 "			50	50								
9 "			50	50	48°	29·400	52° 48°	W. S. W.	6	Cum. st.	b. c.	
10 "			53	50								
11 "			53	50								
12 "			54	50								
1 P. M.			53	50						Clear.	b.	
2 "			54	50					8			
3 "			54	50	51°	29·410	50° 46°		6			
4 "			53	50					5	Cum. st.	b. c.	
5 "			53	50								
6 "			53	50					3			
7 "			52	50						Stratus.	c.	
8 "			48	50								
9 "			48	50	50°	29·420	50° 46°					
10 "			48	50				S. W^{d}.	2			
11 "			48	50								
12 "			49	50								
Mean.			50·7	50	49·75	29·397						
Feb. 24.												
1 A. M.			49°	50°				S. W^{d}.	4	Stratus.	c.	
2 "			49	50								
3 "			49	50	49°	29·300			3			
4 "			50	50								
5 "			50	50					1			
6 "			50	50				Calm.	0			
7 "			50	50								
8 "			50	50				S. W^{d}.	2			
9 "			50	50	49°	29·350	53° 46°					
10 "			52	50					4			
11 "			53	50					3			
12 "			55	50								
1 P. M.			52	50				Var.	2	Nimbus	c. d.	
2 "			53	50								
3 "			50	50	50°	29·350						
4 "			50	50								
5 "			53	50				S. W^{d}.	4		r.	
6 "			52	50								
7 "			51	50								
8 "			50	50							c.	
9 "			51	50	49°	29·300	51° 45°					
10 "			49	50				Var.	2	Clear.	b.	Saw a very brilliant meteor in the N. E.
11 "			49	50								
12 "			49	50								
Mean.			50·66	50	49·25	29·325						

Orange Harbour.

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ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 25.												
1 A. M.			47°	50°				S. W^{d}.	1	Clear.	b.	
2 "			45	50								
3 "			42	50		29·310						
4 "			46	50				Var.	1			
5 "			45	50						Cum. st.	b. c.	
6 "			46	50								
7 "			46	50								
8 "			48	50								
9 "			50	50		29·290		Calm.	0	Clear.	b.	
10 "			53	50								
11 "			54	50						Nimbus	c.	
12 "			55	51				S. W.	4			
1 P. M.			56	51								Peacock and Porpoise sailed for the Antarctic Ocean.
2 "			50	50					6		r.	
3 "			49	50		29·200	Rain.					
4 "			48	50								
5 "			48	50								
6 "			46	50								
7 "			46	50					5			
8 "			46	50					4			
9 "			46	50		29·310	Rain.		3			
10 "			46	50								
11 "			45	50								
12 "			45	50							c.	
Mean.			48·83	50·08		29·277						
Feb. 26.												
1 A. M.			44°	50°				S. W.	3	Cum. st.	b. c.	
2 "			43	50								
3 "			43	50		29·310						
4 "			44	50				N. W.	2	Clear.	b.	
5 "			45	50								
6 "			45	50								
7 "			45	50								
8 "			51	50				N. by W.	3			
9 "			52	50		29·390						
10 "			53	50								
11 "			54	50								
12 "			54	50								
1 P. M.			55	50				N^{d}.	5			
2 "			56	50					6			
3 "			58	50		29·300						
4 "			60	50					4			
5 "			57	50				N. W.				
6 "			55	50								
7 "			55	50					3			
8 "			49	50								
9 "			51	50		29·300		Calm.	0			
10 "			49	50							b. w.	
11 "			48	50								
12 "			48	50								
Mean.			50·58	50		29·325						

Orange Harbour.

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ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 27.												
1 A. M.			46°	50°				Calm.	0	Clear.	b.	
2 "			47	50								
3 "			46	50		29·330		Var.	1			
4 "			46	50				S. W.	5	Stratus.	c.	
5 "			44	50								
6 "			45	50				Calm.	0			
7 "			47	50								
8 "			50	50								
9 "			51	50		29·390		S. W.	4	Cum. st.	b. c.	
10 "			51	50								
11 "			52	50								
12 "			55	50								
1 P. M.			59	50								
2 "			58	50								
3 "			58	50		29·480						
4 "			56	50								
5 "			54	50								
6 "			53	50								
7 "			51	50								
8 "			49	50								
9 "			49	50		29·450		Var.	2	Clear.	b. w.	
10 "			49	50								
11 "			50	50								
12 "			50	50								
Mean.			50·66	50°		29·412						
Feb. 28.												
1 A. M.			53°	50°				N. E^{d}.	3	Cum.	c.	
2 "			51	50								
3 "			51	50		29·150						Thick heavy clouds on the hills.
4 "			51	50				Var.	2			
5 "			51	50								
6 "			51	50						Nimbus		
7 "			51	50				S. W.	6			
8 "			53	50								
9 "			53	50		29·010						
10 "			53	50		29·060			9	Over-cast.		
11 "			50	50		29·090						
12 "			44	50		29·120						
1 P. M.			46	50		29·200			8		r.	Clouds very low and thick.
2 "			47	50		29·220						
3 "			48	50		29·300						
4 "			47	50								
5 "			46	50					7		q. r.	
6 "			46	50								
7 "			46	50		29·380						
8 "			44	50								
9 "			44	50		29·400			9		q. r.	
10 "			44	50								
11 "			42	50						Stratus.	c. q.	
12 "			41	50								Rainbow seen, alt. 31°.
Mean.			48·04	50		29·193						

Orange Harbour. Orange Harbour.

Univ. of California

U. S. SHIP VINCENNES.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 1.												
1 A. M.			42°	50°				S. W.	8	Over-	q. r.	
2 "			42	50					9	cast.		
3 "			42	50		29·490			8			
4 "			43	50								
5 "			43	50								
6 "			43	50					6		p.	
7 "			43	50								
8 "			45	50								
9 "			48	50		29·500		W^{d}.	4	Cum. st.	c.	
10 "			52	50								
11 "			53	50								
12 "			54	50								
1 P. M.			51	50				S. W.	2	Stratus.	r.	
2 "			49	50								
3 "			49	50		29·500						
4 "			48	50				Var.	1		c.	
5 "			47	50								
6 "			47	50								
7 "			46	50								
8 "			46	50								
9 "			44	50		29·540		Calm.	0		c. u.	Squally appearances in the S. W. A number of whales in the bay.
10 "			44	50								
11 "			43	50								
12 "			42	50								
Mean.			46·08	50		29·507						
Mar. 2.												
1 A. M.			44°	50°				S. W.	1	Over-	c. d.	
2 "			43	50						cast.		
3 "			43	50		29·540						
4 "			43	50								
5 "			43	50					3		r.	
6 "			43	50							d.	
7 "			43	50						Stratus.		
8 "			43	50								
9 "			46	50		29·530			6		r.	
10 "			43	50					7		r. h.	
11 "			43	50					6			
12 "			49	50								
1 P. M.			50	50					5		c.	
2 "			50	50								
3 "			51	50		29·540				Over-		
4 "			49	50					6	cast.	q. r.	
5 "			47	50								
6 "			45	50				W. S. W.				
7 "			45	50								
8 "			45	50					4		r.	
9 "			45	50		29·540						
10 "			45	50								
11 "			45	50								
12 "			45	50								
Mean.			45·33	50		29·537						

Orange Harbour.

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ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 3.												
1 A. M.			45°	50°				S. W^{d}.	3	Stratus.	c.	
2 "			46	50								
3 "			45	50		29·540						
4 "			45	50							r.	
5 "			46	50								
6 "			46	50								
7 "			48	50					8	Cum. st.	c.	
8 "			50	50				W. S. W.	9	Stratus.		
9 "			50	50		29·540						
10 "			50	50								A few drops of rain as the clouds came off the hills.
11 "			50	50					10			
12 "			51	50								
1 P. M.			51	50					9			
2 "			51	50								
3 "			50	50		29·640						
4 "			51	50					8			
5 "			49	50								
6 "			49	50					7			
7 "			48	50					6			
8 "			46	50					5			
9 "			47	50		29·640						
10 "			47	50				S. W^{d}.	3			
11 "			48	50								
12 "			49	50								
Mean.			48·25	50		29·590						
Mar. 4.												
1 A. M.			53°	50°				S. W^{d}.	3	Over-cast.	c.	
2 "			52	50								
3 "			53	50		29·500			8			
4 "			53	50							c. q.	
5 "			55	50								
6 "			55	50					9			Heavy clouds on the hills.
7 "			55	50							q. r. h.	
8 "			54	50								
9 "			57	50		29·450	56° 53°				q. p.	
10 "			57	50		29·430		W. S. W.	10			
11 "			51	50		29·480						
12 "			54	50		29·490						
1 P. M.			53	50		29·500						
2 "			50	50		29·540						
3 "			50	50		29·540						
4 "			49	50		29·600			8		q.	
5 "			49	50								
6 "			48	50		29·600						
7 "			46	50					7		c. r.	
8 "			47	50		29·620					c.	
9 "			51	50		29·620			6			
10 "			49	50					3			
11 "			47	50				Calm.	0	Clear.	b. w.	
12 "			47	50								
Mean.			51·45	50		29·537						

U. S. SHIP VINCENNES.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 5.												
1 A. M.			48°	50°				Calm.	0	Nimbus	c.	
2 "			49	50								
3 "			49	50		29·500						
4 "			48	50				Var.	1			
5 "			48	50							c. d.	Number of whales in the bay.
6 "			48	50								
7 "			49	50								
8 "			52	50				S. W.	3		c.	
9 "			57	50		29·340	53° 48°		4			
10 "			60	50					3			
11 "			57	50								
12 "			60	50								
1 P. M.			58	50								
2 "			59	50								
3 "			58	50		29·250						
4 "			57	50					5		d.	
5 "			51	50								
6 "			50	50								
7 "			52	50								
8 "			52	50								
9 "			52	50		29·250						
10 "			51	50				S. W^{d}.				
11 "			50	50					6		q.	
12 "			48	50					4			
Mean.			50·54	50		29·335						
Mar. 6.												
1 A. M.			48°	50°				S. W^{d}.	2	Cum. st.	c.	
2 "			48	50								
3 "			47	50		29·200						
4 "			47	50					4	Clear.	b.	
5 "			47	50								
6 "			47	50								
7 "			49	50								
8 "			51	50								
9 "			53	50		29·200	52° 45°					
10 "			52	50								
11 "			53	50				W^{d}.	6	Nimbus	c.	
12 "			51	50								
1 P. M.			52	50					7	Clear.	b.	
2 "			52	50						Cum. st.	b. e.	
3 "			49	50		29·220			9		q. r. h.	Gale commenced as barometer rises.
4 "			47	50							q.	
5 "			46	50				S. W^{d}.	8	Nimbus	q. p.	
6 "			45	50								
7 "			45	50								
8 "			45	50		29·300			10		r.	
9 "			45	50		29·400						
10 "			44	50		29·450						
11 "			43	50					11			
12 "			43	50		29·520					q. r.	
Mean.			47·87	50		29·255						

U. S. SHIP VINCENNES.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 7.												
1 A. M.			43°	50°				S. W.	10	Over-	q. p. h.	
2 "			44	50						cast.		
3 "			44	50		29·640			9			
4 "			45	50								
5 "			44	50								
6 "			45	50					8		q. p.	
7 "			45	50								
8 "			46	50							q. c.	
9 "			48	50		29·700	49° 46°					
10 "			50	50								
11 "			50	50				S. W.	6	Cum. st.	c.	
12 "			50	50								
1 P. M.			52	50								
2 "			52	50								
3 "			51	50		29·660						
4 "			51	50								
5 "			51	50				W^d.	5			
6 "			50	50								
7 "			49	50								
8 "			48	50								
9 "			48	50		29·640		N. W.	4	Nimbus	r.	
10 "			48	50								
11 "			48	50								
12 "			48	50								
Mean.			47·91	50		29·660						
Mar. 8.												
1 A. M.			48°	50°				W^d.	4	Nimbus	r.	
2 "			48	50								
3 "			49	50		29·310						
4 "			49	50				S. W.	7		q. r.	
5 "			46	50								
6 "			46	50							q. r. h.	
7 "			48	50								
8 "			47	50		29·500			8			
9 "			48	50		·520			9		c. q.	
10 "			49	50		·580						
11 "			49	50		·620		SWbyW.		Clear.	b. q.	Sun out.
12 "			49	50		·640			10	Nimbus	c. q.	
1 P. M.			49	50		·640						
2 "			50	50		·700					q. r.	Squalls from the hills.
3 "			48	50		·710						
4 "			46	50		·760			9			
5 "			46	50		·760						Long lulls.
6 "			46	50		·750					q.	
7 "			46	50		·760			8			
8 "			46	49		·770						
9 "			46	49		·770			6			
10 "			46	49					3			
11 "			45	49				Calm.	0	Stratus.	c.	
12 "			50	49								
Mean.			47·45	49·79		29·652						

U. S. SHIP VINCENNES.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 9.												
1 A. M.			45°	49°				Var.	1	Nimbus	c.	
2 "			45	49				Calm.	0			
3 "			45	49		29·680						
4 "			45	49				Var.	1			
5 "			46	49				Calm.	0		r.	
6 "			46	49								
7 "			47	49								
8 "			49	49				S. W.	3	Cum. st.	c.	
9 "			54	49		29·560	54° 52°					Preparing the Observatory on shore.
10 "			56	49								
11 "			61	50								
12 "			59	50								
1 P. M.			57	50								
2 "			57	50								
3 "			54	50								
4 "			54	50								
5 "			53	50				S. W^{d}.	5		c.	
6 "			52	50								
7 "			52	50								
8 "			51	50								
9 "			50	49·5		29·540			8	Nimbus	q. d.	
10 "			48	49·5		29·600			9			
11 "			48	50					8			
12 "			48	50								
Mean.			50·91	49·54		29·595						
Mar. 10.												
1 A. M.			48°	50°				S. W^{d}.	7	Nimbus	c. u.	
2 "			49	50								
3 "			49	49		29·650						
4 "			48	49								
5 "			49	49				S. W.			c. q.	
6 "			49	50					9			
7 "			50	50					7			
8 "			51	50								
9 "			53	50		29·700	53° 47°					
10 "			54	50					6	Clear.	b.	
11 "			55	50								
12 "			50	50								
1 P. M.			52	50								
2 "			48	50					5			
3 "			47	50		29·700						
4 "			56	50								
5 "			55	50					4			
6 "			54	50								
7 "			51	50								
8 "			50	50					2			
9 "			50	50		29·700	57° 50°	Calm.	0	Stratus.	c.	
10 "			50	50								
11 "			50	50								
12 "			50	50								
Mean.			50·75	49·87		29·687						

Orange Harbour.

Orange Harbour.

U. S. SHIP VINCENNES.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 11.												
1 A. M.			50°	50°				Calm.	0	Cum. st.	b. c.	
2 "			50	50								
3 "			49	50		29·650						
4 "			49	50						Clear.	b.	
5 "			49	50								
6 "			49	50								
7 "			48	50								
8 "			50	50								
9 "			54	50		29·620	52° 47°	N^{d}.	3	Cum.	c.	
10 "			53	50								Preparing the Observatory on shore.
11 "			54	50								
12 "			55	50					4			
1 P. M.			56	50								
2 "			55	50								
3 "			56	50		29·500	55° 49°					
4 "			56	50								
5 "			52	50								
6 "			51	50								
7 "			51	50				N. E^{d}.	2			
8 "			50	50								
9 "			50	50	49°	29·400	56° 51°	E^{d}.	2	Cum. st.	b. c.	
10 "			50	50								
11 "			50	50								
12 "			50	50								
Mean.			51·54	50	49	29·542						
Mar. 12.												
1 A. M.			50°	50°				E^{d}.	1	Cum. st.	b. c.	
2 "			50	50								
3 "			49	50	48·5°	29·150						
4 "			49	50				N. E^{d}.	3			
5 "			50	50								
6 "			50	50								
7 "			50	50								
8 "			51	50					2			
9 "			52	50	51°	28·940						
10 "			52	50					1			
11 "			52	50				Var.		Nimbus		Sending the instruments to the Observatory.
12 "			52	50								
1 P. M.			48	50				S. W^{d}.	6		c. r.	
2 "			48	50								
3 "			48	50	46°	28·840						
4 "			48	50								
5 "			46	50					5			
6 "			45	50								
7 "			45	50								
8 "			44	50							d.	
9 "			44	50	44°	28·840						
10 "			44	50				W. S. W.	7		q. d.	
11 "			44	50								
12 "			44	50					5			
Mean.			48·16	50	47·37	28·942						

Orange Harbour.

Orange Harbour.

OBSERVATORY.

ORANGE HARBOUR, TIERRA DEL FUEGO.

INSTRUMENTS USED ON SHORE.

Standard barometer.

Attached thermometer.

Thermometer exposed to the rays of the sun, the bulb being covered with black wool; one foot and a half from the ground.

Thermometer, in the same situation, with bulb uncovered.

These two thermometers were removed to the house during the night, and while the gales of wind lasted.

Thermometer in the house or Observatory.

Thermometer in a hole two feet and a half below the surface.

Photometer, which generally stood at 12° in the Observatory; the observations recorded are those made when the weather admitted its being exposed in the open air.

Hygrometer.

Temperature of water, and at mast-head, observed on board U. S. Ship Vincennes.

1839.	Barom.	THERMOMETER.							Photometer.	WIND.		Clouds.	Weather.	Remarks.
		Att.	Black Wool.	No Wool.	House.	Hole.	Water.	Mast-head.		Direc.	Force.			
Mar. 13.														
1 A. M.							50°			W^d.	4	Cum. st.	c.	
2 "							50							
3 "	28·910	43°					50					Nimbus		
4 "							50			S. W^d.	3		r.	
5 "							50							
6 "							50							
7 "							50							
8 "							50				5			
9 "	29·000	45					50	41°						
10 "							50			S. W.	8		r.	
11 "							50							
12 "	28·942	45	45°	45°			50		26°		9			Began observing on shore.
1 P. M.							50						q. r.	
2 "							50				7			
3 "	29·142	45	43	45			50	41°	26					
4 "	29·134	44·5	42	45·5			50		32					
5 "							50						b. c. q.	Rain 2·1 in.
6 "	29·200	44·5	44	45·5			50		26					
7 "							50			W. S. W.	6		q.	
8 "	29·238	46	43	45			50					Clear.	b. q.	
9 "							50	41°			9	Nimbus	c.	
10 "							50				6	Clear.	b. q.	
11 "							50					Cum. st.	b. c. q.	
12 "	29·258	44	41	44			50							
Mean.	29·103	44·62	43	45			50	41°						

OBSERVATORY.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	House.	Black Wool.	No Wool.	Hole.	Water.	Mast-head.			Direc.	Force.		
Mar. 14.														
1 A. M.							50°				S. W^{d}.	7	Nimbus.	q. r.
2 "							50							
3 "							50	41°						c.
4 "	29·360	42°	42·5°	42°	42°		50			Rain ·3 in.		6		
5 "							50							
6 "							50					4	Clear.	b.
7 "							50							
8 "	29·424	43·5	45	46	46		50				W^{d}.	3		
9 "							50				N. W^{d}.	4	Cum. st.	b. c.
10 "	29·450	53	52·5	55·5	52		50			50° 42°				
11 "	·450	50·5	48·5	50	49		50							
12 "	·450	50	49·5	52	51		50			52° 44°				
1 P. M.	·450	52·5	53	54	56		50						Clear.	b.
2 "	·450	54·5	52·5	49·5	48·5		50					2	Cir. stra.	b. c. m.
3 "	·450	54·5	52·5	52·5	52		50	52°						
4 "	·400	52	51				50							
5 "	·400	50	51	50	50		50			50° 42°	N^{d}.		Stratus.	c.
6 "	·355	47·5	48	47·5	47·5		50							
7 "							50							
8 "	29·355	47·5	48	47·5	47·5		50				N. W^{d}.	3		
9 "	·350	46·5	47	46·5	47		50	48°			Calm.	0		
10 "							50				N^{d}.	2		
11 "							50							
12 "	29·330	47	48	47	48·5		50					3		
Mean.	29·407	49·35	49·21	49·29	49		50	47						
Mar. 15.														
1 A. M.							49°				N^{d}.	3	Stratus.	c.
2 "							49							
3 "	29·250	46·5°	47°	46°	46·5	46°	49	48°						
4 "							49				N. E^{d}.	4		
5 "							49							
6 "							49							
7 "							49						Nimbus.	
8 "	29·151	47	47·5	48	48	46°	49		27			5		r.
9 "							49·5	42°				4		
10 "	29·145	48·5	48	47	47	46	50		36			2		
11 "	·125	48·5	48·5	47	47	46	50		43		S. W^{d}.			
12 "	·100	49	48·5	47	47	46	50		45					c.
1 P. M.	·055	49·5	49	47	47	46	50		33					
2 "	·055	48·5	48	43·5	43·5	46	50		31			3		
3 "	·055	47	47	43	43	46	50	49°	31	51° 48°				
4 "	·055	47	47	44	45	46	50		80				Clear.	b.
5 "	·055	50	49·5	47	48	46	50		75					
6 "	·112	49	48·5	43	46	46	50		27				Cir. stra.	c. d.
7 "							49							
8 "	·110	46	46	42·5	43·5		49				S. W.	4		q. r.
9 "	·112	44	45	42	43		49	41°						
10 "	·122	43	44	39	41·5		49				S. S. W.	3	Cirrus.	b. c.
11 "	·126	42·5	43·5	42	43		49							
12 "	·128	42	43	43	43		49							
Mean.	29·109	46·81	46·25	44·5	45·12	46°	49·4	45						

OBSERVATORY.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	House.	Black Wool.	No Wool.	Hole.	Water.	Mast-head.			Direc.	Force.		
Mar. 16.														
1 A. M.							49°				W^d.	2	Clear.	b.
2 "	29·154	38°	40°	35°	38°		49							
3 "							49	37°						
4 "							49				Var.	1		
5 "							49							
6 "							49							
7 "							49							
8 "	29·156	47	47·5	40	44·5	46°	49		74°	46° 40°	N. W^d.	2		
9 "	·200	46·5	46	52	49	46	49	42°		50° 40°		3		
10 "	·225	52·5	50·5	53·5	50	46	49		81	51° 40°				
11 "	·240	53·5	50·5	54	51	46	49		85	52° 46°			Cirrus.	
12 "	·240	53·5	51·5	55	53	46	49		85	53° 45°				
1 P. M.	·240	53	52	57	54.5	46	50		95			4	Stratus.	c.
2 "	·240	52·5	52	55·5	53·5	46	50		79			5		
3 "	·240	52	51·5	53	51	46	50	50°	64	51° 48°	W^d.			
4 "	·240	50	49·5	44	44	46	50		34		S. W^d.	7		r.
5 "	·250	49	48·5	43	43	46	49		34					
6 "	·300	46	46·5	38	39·5	46	49		22					
7 "	·300	44·5	45	37	38	46	49		22			5	Cir. st.	c.
8 "	·300	42·5	43·5	35	36	46	49					4		
9 "	·300	40	41	34	34		49	38°		35° 28°		1		
10 "	·310	39	40·5	38	39·5		49				Calm.	0	Clear.	b.
11 "	·328	38	39·5	33	34·5		49							
12 "	·338	37	39·5	35	38		49							
Mean.	29·254	46·63	46·22	44	43·81	46	49·16	41·75						
Mar. 17.														
1 A. M.							49°				Calm.	0	Clear.	b.
2 "	29·328	35°	36°	33°	33°	46°	48							
3 "							48	36°						
4 "							47							
5 "							47							
6 "							47							
7 "							47							
8 "	29·325	39	39·5	41	41	45	47		85°	46° 38°				
9 "	·325						49	48°						
10 "	·325	50·5	49	55	51	46	49		75	51° 40°	S^d.	1		
11 "	·330	50·5	49·5	61	57	46	49		76				Cirrus.	
12 "	·324	50	49·5	66	59	46	50		77					
1 P. M.	·310	50·5	50	70	57	46	50		83		N. E^d.	2	Clear.	
2 "	·300	53	52·5	68·5	67	45·5	50		75					
3 "	·300	56	55	69	57	46	50	49°	76					
4 "							50				N^d.			
5 "	29·256	56	54·5	56	56	45	50		76					
6 "	·246	52	51·5	47·5	46·5	44	50		32					
7 "	·240	46·5	47·5	38	39	44	50				Calm.	0	Nimbus.	c. p.
8 "	·200	44	45	35	37	44	50							
9 "	·200	43	44·5				50	43°			S. W^d.	8		q. r.
10 "	·200	43	44	43	43		50					2		q.
11 "	·210	43	43	39	39	44	50					6		
12 "	·210	42	43	39	39	44	50					4		r.
Mean.	29·270	47·77	47·12	50·72	48·13	45·11	49·04	44						

OBSERVATORY.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	House.	Black Wool.	No Wool.	Hole.	Water.	Mast-head.			Direc.	Force.		
Mar. 18.														
1 A. M.							49°				S.W.	6	Overcast.	q.r.h.
2 "							49							
3 "	29·210	40·5°	41·5°	39°	39°	44°	49	37°		Rain.				
4 "							49				W.S.W.	7		r.
5 "							49							
6 "							50							
7 "							49							
8 "	29·153	40·5	41·5	37	38	44	49						Stratus.	
9 "							49	45°		Snow.	S.W.	8		q.r.s.h.
10 "							49							
11 "	29·100	46	45	43°	46	45	49		87°					
12 "	·100	44·5	44	43	43·5	45	49		43					
1 P. M.	·055	43	42·5	39	39	44	49		40					
2 "	·051	40	40·5	32	32	43	49		35					
3 "	·051	38	39·5	31	31	43	49	34°	25	Snow.	Wd.	9		s.h.
4 "	·051	37	38	33	34	44	49		25					
5 "	·051	36·5	37·5	33	33	44	49							s.
6 "							49					7		q.s.
7 "	·051	36	36	34	34	44	48							
8 "	·051	35	35·5	32	32	44	48			Snow.	S.Wd.			
9 "	·050	35	35·5	32	33		47	32°						q.s.h.
10 "							47							
11 "							47			Rain				
12 "							47			·63 in.				
Mean.	29·081	40·11	39·75	35·66	36·16	43·27	48·63	37						
Mar. 19.														
1 A. M.							48				S.W.	7	Overcast.	q.r.s.h.
2 "							48							
3 "							48	32°						
4 "							48							
5 "							48						Nimbus.	q.d.
6 "							49							
7 "							49							
8 "	29·052	34°	34°		37°	44°	49		62°		Wd.	6		q.p.
9 "	·052	36	36			44	49	36°						
10 "	·052	38	38·5		42	44	49		70	39° 36°				
11 "	·048	39	38·5	36°	36	44	49		50					
12 "	·048	39	38	35	35	44	49		46		S.W.	8		s.
1 P. M.	·048	39	38	35	35	44	48		45					
2 "	·050	38	37·5	36	36	44	48		43					
3 "	·050	39·5	38·5	35	35	44	48	36°	40					
4 "	·050	39·5	38·5	35	36	44	48		33		Wd.	9		q.h.
5 "	·050	38·5	38·5		33	44	48		32			8		
6 "	·048	36·5	37		36	44	48		28					
7 "	·048	36	37		36	44	48		28					
8 "	·002	37	37·5		37·5	44	48		25		S.W.			
9 "	·002	37	37		35	44	48		25					
10 "	·085	37	37		34	44	48				S.E.	10		h.s.
11 "	·156	38·5	37·5				49					9		
12 "	·250	37	38				49			Rain ·5 in.	S.S.E.			
Mean.	29·064	37·52	37·47	35·33	35·96	44	48·37	34·66						

OBSERVATORY.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	House.	Black Wool.	No Wool.	Hole.	Water.	Mast-head.			Direc.	Force.		
Mar. 20.														
1 A. M.							48°				S. S. E.	8	Nimbus.	q. h.
2 "							48							
3 "	29·424	36·5°	36·5°			43°	48	33°						
4 "							48				S^{d}.			
5 "							48				S. W.	7		
6 "							48							
7 "							48						Clear	
8 "	29·540	38	38			44	48		70°	38° 20°			overhead	b. c.
9 "	·550	41·5	42				48	41°	65		S^{d}.	8	Nimbus.	q. h.
10 "	·558	42	41			42·5	48		64					
11 "	·580	41·5	40·5				48							
12 "	·580	41·5	40·5			43	48		30		S.W^{d}.	9		
1 P. M.	·580	41·5	40·5			43·5	48		32					q. s.
2 "	·530	41	41			43·5	48		40					
3 "	·520	40·5	39·5			41·5	48		32					
4 "	·440	49	39			41·5	48		33					
5 "	·452	38	38·5			43	48		25					
6 "	·426	38	38·5			43	48		25			10		q. s. h.
7 "	·426	37	37			43	48							
8 "	·420	36·5	37			43	48					9		r.
9 "	·430	36	35			43	48							s. h.
10 "	·431	35	35·5			43	47							c.
11 "	·432	34·5	35			43	47							r. s.
12 "	·434	34·5	35			42·5	47			Rain ·4 in.		7		
Mean.	29·487	38·36	38·33			42·87	47·83	37						
Mar. 21.														
1 A. M.							48°				S.W^{d}.	8	Nimbus.	q. h. s.
2 "							48							
3 "	29·604	37°	38·5°		36°	44°	47				S^{d}.			
4 "							47							
5 "							47				S. E^{d}.	6		q. c.
6 "							47							q. h. s.
7 "							47							
8 "							47							q. c.
9 "	29·890	39	39·5		37	44	47	39°	62°					
10 "	·938	40	41		41·5	43	47		60					
11 "							47							
12 "	29·990	41·5	40·5		40·5	42·5	47		36					q. b. c.
1 P. M.	·990	41	41·5		44	43	48		44					
2 "	·990	42	42		41	43	48		52		S.W.	7	Clear.	b.
3 "	30·000	41	41·5		41	43	47	41°	28		S.S.W.		Stratus.	q. r.
4 "	·008	41	41		39·5	43	48		25					
5 "	·008	40	40·5		40	43	48		25					
6 "	·008	39	39·5		35	42·5	48		25			8		
7 "	·008	38·5	39		36	42·5	48							q. d.
8 "	·008	38	38·5		38	42·5	47							
9 "	·000	38	39		37	42·5	47	38°						
10 "	·000	38·5	38·5		38	42·5	47							
11 "	29·955	38·5	39		38	42·5	47							
12 "	·952	38·5	39·5		38	42·5	47			Rain ·5 in.		9		q. h.
Mean.	29·960	39·34	39·84		38·65	42·87	47·33	39·33						

Both thermometers broken.

Not exposed.

OBSERVATORY.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	House.	Black Wool.	No Wool.	Hole.	Water.	Mast-head.			Direc.	Force.		
Mar. 22.														
1 A. M.							48°				S. W^{d}.	8	Nimbus.	q. r.
2 "							48							
3 "	29·958	40°	40·5°		38°	42·5°	47	37°						
4 "							47							
5 "							47				S. S. W.	7		q. r.
6 "	29·956	41	41·5		40°	43	47							
7 "	·952	41	41·5		40	43	47							
8 "	·950	41·5	41·5		40·5	42·5	47							
9 "	·950	42	42		41	42·5	47	39°	30°					
10 "	·952	42·5	42·5		41·5	42·5	47		32					
11 "	·950	42·5	43		42	42·5	48		36			8		
12 "	·950	43·5	44		42·5	43	48		35					
1 P. M.	30·000	44·5	45		43	43	47		36					
2 "	·000	44·5	44·5		43·5	43	47		35					
3 "	·012	44	45		43	43	47	44°	36					
4 "	·020	45	44		43	43	47		32			6	Stratus.	c.
5 "	·050	44	45		41	43	46		30					
6 "	·050	44	44		41	43	46		25					
7 "	·052	43·5	43·5		41	43	47							
8 "	·052	43	43·5		41	43	47							
9 "	·054	43	43		41	43	47							
10 "	·100	43	43·5		43	42	47				S. W^{d}.	5		c. p.
11 "	·150	44	44·5		43	42	48							
12 "	·150	43	43		42	43	48			Rain ·54 in.			Overcast.	
Mean.	30·015	43·02	43·22		41·56	42·77	47·16	40						
Mar. 23.														
1 A. M.							46°				S. S. W.	5	Overcast.	o. d.
2 "							46							
3 "	30·180	41°	42°		40°	42°	46	41°						
4 "							46							
5 "							46				S. W.		Cir. st.	c.
6 "	30·220	41·5	42		41·5	42·5	46							
7 "	·220	42	42·5		42	42·5	46							
8 "	·224	42·5	43		43	42·5	46		26°					
9 "	·248	43·5	44		44	42·5	47	42°				6		
10 "	·250	45	45		45	42·5	47							
11 "	·260	46	45·5		47	43	47					4		
12 "	·260	48	47		47	43	47		40			1	Nimbus.	
1 P. M.							47					5		
2 "	30·254	48	47·5		48	43	47		48					
3 "	·252	49	48		47	42·5	47	45°	46					
4 "	·250	48	47·5		46	42	47		40			7		
5 "	·260	46·5	46·5		46	42	47		25					
6 "	·250	46	45·5		44·5	43	47		25					
7 "	·250	45	45		44	43	46							
8 "	·250	44	44·5		44	43	46							q.
9 "	·252	44	44·5		42	43	46	42°						c. q.
10 "	·252	44	44·5		43	42·5	46							
11 "	·254	44	44		43	43	46							c. q. p.
12 "	·254	43·5	44		43	43	46							
Mean.	30·244	44·76	44·86		43·86	42·65	46·41	42·5						

Not exposed.

Not exposed.

OBSERVATORY.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	House.	Black Wool.	No Wool.	Hole.	Water.	Mast-head.			Direc.	Force.		
Mar. 24.														
1 A. M.							46°				S.W.	7	Cum. st.	c.
2 "							46							
3 "	30·258	43°	44°	42·5°		43·5°	47	47°	26°					
4 "							46							
5 "							46					6		c. d.
6 "							46							
7 "							46							
8 "	30·258	43·5	43·5	43		43·5	47		26			5		c.
9 "							47	42°						
10 "	30·260	48·5	47·5	47		43·5	47		57					
11 "	·260	49	48·5	48		43·5	47		48				Clear.	b.
12 "	·260	51	50·5	49·5	52°	44	47		38					
1 P. M.	·260	52·5	51	50	52	43	47		42					
2 "	·250	52	50·5	50	51·5	44	47		39			6		
3 "	·250	52	50·5	49	50·5	43	48	48°	35	50° 47°				
4 "	·248	51	49·5	47	48	43	48		33					
5 "	·248	49	48·5	45	46	43	47		25					
6 "	·234	47·5	48·5	45	46	43	47		25			5		
7 "	·220	46	46·5	44	44	43	47							
8 "	·220	45·5	46	43		43	47							
9 "	·216	44·5	45·5	42	41	43	47							
10 "	·210	43·5	44	43	41·5		47					3		
11 "	·200	42·5	43	39	40·5		47							
12 "	·172	41	41·5	35	37		47				Calm.	0		
Mean.	30·236	47·17	47	44·83	45·83	43·28	46·83	45·66						
Mar. 25.														
1 A. M.	30·152	39·5°	40°	38°	41°		47°				Calm.	0	Clear.	b.
2 "	·134	39	40	38	36		47							
3 "	·112	37·5	38	37	36		46	40°						
4 "							46							
5 "							47				Var.	1		
6 "							47				Calm.	0		
7 "							47							
8 "							47							
9 "	30·074	46	45·5	52·5	47		47	47°	80°	49° 44°				
10 "	·064	53·5	52·5	58·5	52		47		70	52° 38°				
11 "	·050	55	54	58	57		47		76					
12 "	·040	55·5	54·5	72	58		47		75					
1 P. M.	·020	55·5	55	56·5	53		48		77		S. W^{d}.	2	Cirrus.	b. c.
2 "	·000	55·5	55	58·5	54		48		52					
3 "	29·992	55·5	55	60	54·5		48	50°	60	52° 40°	Calm.			
4 "	·964	53	52·5	61·5	52·5		48		45					
5 "	·958	50	49	48	47		48		36					
6 "	·932	48	48·5	44	43·5		48		12		Var.	1	Clear.	b.
7 "	·920	44·5	45·5	39	39		48							
8 "	·900	43	44	39	39		46							
9 "	·864	43	44·5	38·5	39		46	44°		48° 44°	Calm.	0	Cir. stra.	b. c.
10 "	·832	43	44	40	40		46							
11 "	·808	42	43	39	39		47						Clear.	b.
12 "	·780	42	42·5	39	40		47							
Mean.	29·978	47·44	47·52	48·26	45·65		47·08	45·25						

OBSERVATORY.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	House.	Black Wool.	No Wool.	Hole.	Water.	Mast-head.			Direc.	Force.		
Mar. 26.														
1 A. M.							46°				Calm.	0	Stratus.	c.
2 "							46							
3 "	29·744	41·5°	42·5°	42·5°	40°		46	41°						
4 "							46							
5 "							46							
6 "	29·650	42	42	42	44		47		20°					
7 "							47				S. W^{d}.	5	Nimbus.	q. r.
8 "	29·634	44·5	45	45	45		47					7		
9 "							47	44°						
10 "	29·624	44·5	44·5	44	45		47		23			8		
11 "	·624	45·5	45·5	43	46		48		25					
12 "	·626	47·5	47	47·5	48		47		45					
1 P. M.	·630	48	47	45	46		47		42					
2 "	·632	47·5	48	46	46·5		47		40					
3 "	·655	47	47	44	40		47	44°	38					
4 "	·672	46	45·5	42	41·5		47		30					
5 "	·700	44·5	44	43	41·5		47		25					
6 "	·724	43	43·5	39	39		47		25					
7 "	·732	41	42	38	40		46							
8 "	·764	41	41·5		41		47							
9 "	·780	40	41·5		37		46	36°						
10 "	·786	39·5	40·5		38·5		46					5		r. h.
11 "	·786	39	40·5		38		47							
12 "	·800	39·5	41		39		46							
Mean.	29·692	43·19	43·79	42·95	41·88		46·66	41·25						
Mar. 27.														
1 A. M.							46°				S.S.W.	7	Nimbus.	q. r. h.
2 "							46							
3 "							46	41°						
4 "							47							
5 "							47				S.W.	8		r.
6 "	29·830	39·5°	39·5°	38°	38°		47		27°					
7 "	·850	40·5	40	38·5	39		47		28					
8 "	·868	41	40·5	39	39		47		30					
9 "	·900	42	42·5	43	41·5		46	39°	30			7		q.
10 "	·930	44	44	47	48		47		80					
11 "	·948	45	45·5	46	46		47		81					
12 "	·948	46·5	46·5	48·5	46	43·5°	48		65					q.
1 P. M.	·950	48	47·5	48·5	45	43·5	47		48			9		q. h.
2 "	·955	48	48	45	45	43·5	47		50		S. W^{d}.			q.
3 "	·970	47·5	47	44·5	44	43	46	45°	40					h.
4 "	·980	46·5	46	43·5	43	43	46		33					q. h.
5 "	·980	44·5	45	42	41	43·5	46		28					c. q.
6 "	30·000	42·5	43	40	41	43	46							
7 "	·010	43	43·5	40	39	43	47							
8 "	·018	42	42	42	41	42·5	46					6		q. r.
9 "	·010	42	42·5	41	40	43	46							
10 "	·010	41·5	41·5		38·5	43	46							
11 "	·010	41	41		39	43	46							
12 "	·000	40·5	41		40	43	46							
Mean.	29·956	43·44	43·5	42·9	41·78	43·11	46·5	41·66						

OBSERVATORY.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	House.	Black Wool.	No Wool.	Hole.	Water.	Mast-head.			Direc.	Force.		
Mar. 28.														
1 A. M.							46°				S. W^{d}.	5	Cum. st.	q.
2 "							46							
3 "	29·980	41°	41°	39°	38·5°	43°	46	39°						
4 "							46							
5 "							47				Var.	2		c.
6 "	29·960	41·5	41·5	40	39·5	43	47							
7 "	·950	41·5	42	41	40	43·5	47		26°					
8 "	·930	41·5	42	42·5	42·5	43	47		28					
9 "							47	44°			N. E^{d}.	1	Cir. st.	b. c.
10 "	29·910	45	44·5	47·5	44·5	43	47		35					
11 "	·910	45	44·5	52	47	43	47		92					
12 "	·878	46·5	46	60	49	44	47		97	49° 45°		3		
1 P. M.	·870	47	47	62	49	43·5	47		80				Clear.	b.
2 "	·850	47	46·5	55	43	43·5	47		65			4		
3 "	·840	46·5	46·5	48·5	47·5	44	47	44°	56					
4 "	·820	46	46	45	46	44	47		62					
5 "	·800	45	45·5	44·5	44	44	47		*25					
6 "	·800	45	45·5	43	43	43	47		20					
7 "	·800	45	45	42	43·5	43	47							
8 "	·770	45	45	42	44	43	47					2		
9 "	·762	45	45	43·5	43	43	47							
10 "	·732	44	43·5	40	39	43	47				N.W^{d}.	3	Stratus.	c.
11 "	·730	43	43	39	38	43	47							
12 "	·720	42	42·5	39·5	38	43	47							
Mean.	29·842	44·34	44·34	45·48	43·21	43·28	46·83	42·33						
Mar. 29.														
1 A. M.							47°				W^{d}.	3	Overcast.	r.
2 "							46							c.
3 "	29·700	41·5°	42°		42·5°	43·5°	46	43°						
4 "							47				Var.	1		b. c.
5 "							47				Calm.	0	Clear.	b.
6 "							47							
7 "							47							
8 "	29·698	43	43	45°	45	43	47		45°		Var.	1		
9 "							47	50°					Cir. st.	b. c.
10 "	29·710	48·5	48	54	57	43	47		75		Calm.	0		
11 "	·750	52	51	58	53	43	47		50					
12 "	·750	55	53·5	60	55·5	44	47		54		Var.	2		
1 P. M.	·750	56	54	62	56	44	47		50					
2 "	·750	53	51	62·5	53	44	48		65		N. E^{d}.			
3 "	·750	54	54	58	55	43·5	49	48°	55					
4 "	·750	55	54	56	53·5	43·5	48		32				Nimbus.	c.
5 "	·750	51	50·5	48	48	43·5	48		20		N^{d}.	1		
6 "	·750	49·5	49·5	48	48	43·5	48		20		Calm.	0		c. d.
7 "	·750	48	48·5		47	43·5	48							
8 "	·750	48·5	48·5		47	43·5	48							
9 "	·730	48·5	49		46	43	48	48°						
10 "	·720	48	49		46	43	48				W^{d}.	2		r.
11 "	·700	48	48·5		47	43	48							
12 "	·682	48	48·5		48	43	48			Rain ·1 in.				
Mean.	29·731	49·85	49·45	55·15	49·5	43·38	47·45	47·25						

* Sun below hills.

OBSERVATORY.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	House.	Black Wool.	No Wool.	Hole.	Water.	Mast-head.			Direc.	Force.		
Mar. 30.														
1 A. M.							48°				W^d.	2	Nimbus.	r.
2 "							48							
3 "	29·630	47·5°	48·5°		47°	44°	48	48°			Calm.	0		
4 "							48							
5 "							48							
6 "	29·600	49	49		48	46	48				S. W^d.	4	Cir. cum.	c.
7 "	·590	47·5	48		48·5	44·5	48		25°					
8 "	·584	49	49	49°	49	44·5	48		35				Clear.	b.
9 "							48	48°						
10 "	29·570	53	52·5	58	53·5	44	48		60	53° 48°				
11 "	·566	53·5	52·5	56	53	44	48		58					
12 "	·566	53·5	53	58	53·5	44	48		68					
1 P. M.	·572	55	55	62	54	45	48		80					
2 "	·574	54·5	54	51	51	45	48		35				Nimbus.	b. c.
3 "	·574	53	53	50·5	50	44·5	48	49°	36					c. r.
4 "	·574	51	51·5		46	44	48					3		c.
5 "	·572	50	50		46	46	48		35					
6 "	·578	48	48		46	46	48		25			2		
7 "	·560	47·5	48		46	46	48		25		Calm.	0		r.
8 "	.560	47·5	48		45·5	43·5	48							d.
9 "	·560	47	48		46	43·5	47							
10 "	·568	46·5	47		44·5	43·5	47				N^d.	1		c.
11 "	·570	46	47		44	43	47						Clear.	b.
12 "	·572	45	45		43	43	47			Rain ·3 in.	S. W^d.	2	Nimbus.	r.
Mean.	29·575	49·71	49·89	54·92	48·15	44·43	47·83	48·33						
Mar. 31.														
1 A. M.							47°				S. W^d.	2	Overcast.	r.
2 "	29·608	41·5°	43°		41°	44°	47							
3 "							46	44°						
4 "							46						Cum. st.	c.
5 "							47					3		
6 "							47							
7 "							47				W^d.			
8 "	29·624	43·5	44°		45	45	47		25°					
9 "							47	51°			N. W^d.			
10 "	29.624	50·5	49·5	48°	48	45	47		35	50° 48°				
11 "	·624	50	48		47	46	47		34					
12 "	·624	49	48	48	48	45	47		30					
1 P. M.	·624	50	49	51	51	45	48		35					
2 "	·624	50	48·5	50	48·5	45	48		45					b. c.
3 "	·624	50·5	49·5	50	50	45	47	50°	45			1		
4 "	·624	50·5	49·5	49	49	45	47		28		Calm.	0		
5 "	·624	49·5	49	49	49	45	47		32	49° 40°				
6 "	·600	47	47		46·5	45	47		18		Var.	2	Nimbus.	c.
7 "	·600	46	46·5		46	45	47							
8 "	·600	46	46		46	45	47				S. W.	7		q. r.
9 "	·590	44·5	45		41	45	46	42°						
10 "	·630	43·5	44		41	45	46				W. S. W.	6		
11 "	·644	43	43		41	45	46							
12 "	·644	42	42·5		41	45	46			Rain ·33 in.		8		
Mean.	29·619	45·7	46·59	49·22	45·87	45	46·83	46·75						

OBSERVATORY.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	House.	Black Wool.	No Wool.	Hole.	Water.	Mast-head.			Direc.	Force.		
April 1.														
1 A. M.							46°				Wd.	8	Nimbus.	q. r.
2 "							46							
3 "	29·644	41·5°	42°		42°		46	39°						
4 "							46							
5 "							46					9		
6 "							46							
7 "							46				S.W.			q. r. h.
8 "	29·740	41·5	42		41·5	45°	46		41°					q. c.
9 "	·782	44	44		44	45	46	42°	43					
10 "	·800	45	45·5		43	45	46		96			8	Clear.	q. b.
11 "	·800	47·5	46·5	48°	46	45	46		50				Nimbus.	c.
12 "	·832	48	47	45	43·5		46		67					c. h.
1 P. M.	·840	47·5	47	49	47		47		82				Clear.	q. b.
2 "	·840	46·5	46	48	45		47		70				Overcast.	c.
3 "	·840	45·5	45·5	46	43		47	43°	65					
4 "	·840	44	44·5	38	37		47		50			10		q. r. h.
5 "	·840	42	43		41·5		47		30			8		
6 "	·840	41	42	40	40		47		25					
7 "	·836	41	41		40		46		25			7		
8 "	·836	41	41		40		46							
9 "	·832	40·5	41		41		46							b. c.
10 "	·830	40·5	41		41		46							
11 "	·830	40	40·5		38		46				S.S.W.	10		h. r.
12 "	·830	40	40		38		46			Rain ·53 in.				
Mean.	29·812	43·16	43·39	44·85	41·72	45	46·25	41·33						
April 2.														
1 A. M.							46°				S.S.W.	10	Nimbus.	h. r.
2 "							46					9		
3 "	29·856	39°	40°		37°		46	36°				6		
4 "							46					9		r.
5 "							47					8		
6 "							47					7		
7 "							47							
8 "	29·850	40	40·5		41		47		25					
9 "	·863	41·5	42		42·5		47	42°			S.Wd.	6		q. p.
10 "	·882	43	43·5		44		47							
11 "	·924	43	43		42·5		47		45					
12 "	·928	43	43·5		41·5		47		23					
1 P. M.	·930	43·5	43·5		43		47		25					
2 "	·964	43·5	43·5		43		47		35					
3 "	·980	43	43		41		46	42°	25					
4 "	·980	43	43		41		46		25		S.S.W.	8		q. r.
5 "	·984	42·5	42·5		40		46		25					
6 "	·992	41·5	42		38		47							
7 "	30·000	41	41·5		37·5		47							
8 "	·000	40·5	41		41		46							
9 "	·000	40·5	41		40·5		46	41°				7		
10 "	·000	40	41		39·5		46							
11 "	·000	39·5	40		39·5		46							
12 "	29·990	40·5	41		39·5		46			Rain ·4 in.				
Mean.	29·944	41·55	42		40·66		46·5	40·25						

Thermometer broken.

Not exposed.

OBSERVATORY.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	House.	Black Wool.	No Wool.	Hole.	Water.	Mast-head.			Direc.	Force.		
April 3.														
1 A. M.							46°				S. W^{d}.	7	Stratus.	q. p.
2 "							46							
3 "	29·984	39°	40°		39°		46	39°						
4 "							46							
5 "							46					6		p.
6 "							47							
7 "							47							
8 "	29·988	38·5	39		38		47							
9 "	·988						47	40°				5		d.
10 "	·988	41·5	41·5		39		47							
11 "	·988	43·5	43·5		41		47					2		p.
12 "	·972	43·5	44		40	43·5°	46				Calm.	0		d.
1 P. M.	·950	44	44		43	43·5	47							
2 "	·950	44·5	44·5		44·5	44	47						Clear	b. c.
3 "	·950	46	45·5	46°	45·5	44	47	42°					overhead	
4 "	·930	45	44·5		45	44	47							
5 "	·914	42·5	42·5	46	41	44	46			41° 33°	S. W^{d}.	3	Clear.	b.
6 "	·914	41	41·5		39	43	46					1		
7 "	·914	40	41		38·5	43	46				Calm.	0	Nimbus.	c. d.
8 "	·900	39·5	40·5		37	43	46							
9 "	·900	39	40		37	43	46						Clear.	b.
10 "	·900	38	39		35	43	46							
11 "	·874	37	37·5		33		46							
12 "	·874	36	36		31·5	43	46				S. W.	1		
Mean.	29·938	41·05	41·44	46	39·16	43·41	46·41	40·33						
April 4.														
1 A. M.	29·850	34·5°	35°		31·5°	42°	46°				Calm.	0	Clear.	b.
2 "	·830	34	34·5		31·5	41·5	45							
3 "	·830	32	34·5		31·5	39·5	46	32°						
4 "	·800	32	34		32	40	46							
5 "							45				N. E^{d}.	2	Cir. stra.	b. c.
6 "							45							
7 "							45					4		
8 "							45							
9 "	29·808	40·5	41		41·5	42	46	40°						
10 "							47					6	Clear.	b.
11 "	29·772	43	43	48·5°	44·5	43	47		75°	44° 34°				
12 "	·772	43·5	43·5	49	45	43	47		77					
1 P. M.	·742	43·5	43·5	52	45	43·5	47		98					
2 "	·728	44	44·5	50·5	45	43·5	47		98					
3 "	·716	45·5	45	50·5	46·5	43·5	47		93			8		
4 "	·716	45	45	49	45·5	43·5	47		75	45° 36°				
5 "	·696	44·5	45	44	43	43·5	47		19			5		
6 "	·696	44	44·5		43	43	47							
7 "	·700	44	44·5		43	43	47				N. W^{d}.	4		
8 "	·700	43·5	43·5		44	43	46						Cir. stra.	b. c.
9 "	·700	43	43·5		43·5	43	46	42°						
10 "	·700	44	44·5		45	43	47				N^{d}.			
11 "	·700	44	44·5		45	43	46					6		
12 "	·670	44	44		45	43	47							
Mean.	29·743	41·5	42·2	47·64	41·63	42·6	46·29	38						

OBSERVATORY.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	House.	Black Wool.	No Wool.	Hole.	Water.	Mast-head.			Direc.	Force.		
April 5.														
1 A. M.							47°				N. E^{d}.	6	Cir. cum.	c.
2 "							47							
3 "							47	43°						
4 "							46					5		
5 "							46				N^{d}.	3	Clear.	b.
6 "							46							
7 "							47							
8 "	29·620	46°	46°	48°	46·5°	43°	47				E^{d}.	1	Cirrus.	b. c.
9 "							47	40°						
10 "	29·592	53	53	58	52	43	47		98°		Calm.	0		b.
11 "	·592	53·5	54	56	53	43	47		88		N^{d}.	2	Nimbus.	c.
12 "	·580	53·5	54·5		50·5	43	47		30					c. d.
1 P. M.	·584	52·5	51·5	52	52	43	47		42			1		
2 "	·884	51·5	50·5	49	49	43	47		32					c.
3 "	·584	50·5	50	50	49	43	47	40°	35		S.W^{d}.	2		
4 "	·584	50	50	49	49	43	47		30			1		
5 "	·610	47·5	47	43	43	43	47		25					c. p.
6 "	·610	45	43·5		40·5	43	47		25		Calm.	0	Clear.	b.
7 "	·630	43	43·5		39	43	47		25					
8 "	·600	41	42		37	43	47							
9 "	·600	40·5	41·5		37·5	43	46	40°						
10 "	·600	40	41		39	43	46				Var.	1		
11 "	·620	43	43		42	43	46				Calm.	0	Nimbus.	c.
12 "	·630	41·5	42·5		41·5	43	46				Var.	1		d.
Mean.	29·601	46·71	46·71	50·62	44·65	43	46·66	40·75						
April 6.														
1 A. M.							47°				Var.	1	Nimbus.	c.
2 "							47				Calm.	0	Clear.	b.
3 "	29·662	39°	40·5°		37°	43°	47	40°						
4 "							46							
5 "							46							
6 "							46				W^{d}.	1		
7 "							46							
8 "	29·730	40·5	41°		49	43	46		50°					
9 "							47	44°						
10 "	29·760	52	50·5	52°	49·5	43	47		70	51° 42°	N.W^{d}.	3		
11 "	·750	49	48	50	48·5	43	47		68					
12 "	·750	50·5	50	53	51·5	43	47		72					
1 P. M.							47							
2 "	29·704	54·5	52·5	54	51	43	47		83		N^{d}.	4		
3 "	·690	54	53·5	56·5	52	43	49	51°	71	52° 40°				
4 "	·690	53	52·5	62	53	43	49		58					
5 "	·650	50·5	49·5	48	46·5	43	47		25					
6 "	·590	47·5	48	48	46·5	43	47							
7 "	·562	47	47·5	48	48	43	47				N. E^{d}.	5	Cum. st.	b. c.
8 "	·536	47	48	48	49	43						7		
9 "	·512	47	47·5		48	43		47°						
10 "	·492	47	47		47	43					N^{d}.	5	Cirrus.	
11 "	·450	46·5	46·5		47	43								
12 "	·440	46	46		47	43				Rain ·5 in.	N.W^{d}.			
Mean.	29·610	48·18	48·03	51·95	48·12	43	46·95	45·5						

OBSERVATORY.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	House.	Black Wool.	No Wool.	Hole.	Water.	Mast-head.			Direc.	Force.		
April 7.														
1 A. M.							46°				N. E^{d}.	6	Cirrus.	b. c.
2 "							46							
3 "	29·350	46°	46°		48°	43°	46	45°						
4 "							46					4	Nimbus.	c.
5 "							47					3		r.
6 "							47				Var.	1		
7 "							47				Calm.	0		d.
8 "	29·370	45	46	44°	43	44	47							
9 "							47	46°						
10 "							47				Var.	1		
11 "							47							
12 "	29·386	45	46·5	46	45	43	47		35°		Calm.	0	Cumulus	
1 P. M.	·406	47	47	47	46	43	47		45					
2 "	·406	47	47	46	45	43	47		35					
3 "	·396	47·5	47	44	44	43	47	46°	48		S. W^{d}.	1		
4 "	·368	46	46	43	44	43	47		30		Var.	1		c.
5 "	·368	46·5	46·5	40	43	43·5	47		23		S. W^{d}.	2		
6 "	·360	45	45·5	42	43	43·5	47			45° 40°			Clear.	b.
7 "	·336	44	44·5		41	43·5	47							
8 "	·332	42·5	43·5		39	43	47							
9 "	·330	42	43		40·5	43	47	44°					Cum. st.	c.
10 "	·300	42	42·5		39	43	47							
11 "	·300	40	40·5		40	43	46					1	Clear.	b.
12 "	·270	40	40·5		39·5	43	45·5			Rain·17 in.				
Mean.	29·351	44·66	44·8	44	42·73	43·1	46·7	45·25						
April 8.														
1 A. M.	29·250	38·5°	39°		37·5°	43°	46°				S. W^{d}.	1	Clear.	b. w.
2 "	·230	38	39		35·5	43	46				Calm.	0		
3 "					33	43	45	36°						
4 "	29·182	36	37		33	43	45							
5 "					38	43	46							
6 "							45·5						Cir. cum.	b. c.
7 "							46				S. W^{d}.	2		
8 "	29·138	46·5	47·5		38	43	46		28					
9 "							46	44°			Var.	1		c.
10 "							46							
11 "	29·138	43·5	43	46°	45	43	46		55	50° 40°				
12 "	·140	46	45·5	51	48·5	43	47		62		Calm.	0		b. c.
1 P. M.	·136	50	48·5	49	48	43	47		57					
2 "	·138	48·5	47	46·5	47	43	47		32		Var.	1		c.
3 "	·160	45·5	45·5	43	43	43	47	44°	35		Calm.	0		c. d.
4 "	·160	45·5	45	43	43	43	47		32					
5 "	·150	45·5	45	43	43·5	43	47		25		W^{d}.	3		c.
6 "	·150	42	43		41	43	47							
7 "	·150	41	41·5		38·5	43	47				Calm.	0		
8 "	·140	39·5	41·5		39	43	47						Clear.	b.
9 "	·140	39	40		35	43	46							b. w.
10 "	·140	37	39·5		35	43	45							
11 "	·130	37	39		34	43	45							
12 "	·128	36·5	37		34	43	45			Rain ·8 in.				
Mean.	29·155	42·08	42·41	45·92	40·97	43	46·14	41·33						

OBSERVATORY.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	House.	Black Wool.	No Wool.	Hole.	Water.	Mast-head.			Direc.	Force.		
April 9.														
1 A. M.	29·132	36·5°	37·5°		34°	43°	46°				S. W^{d}.	1	Clear.	b. w.
2 "							46				Calm.	0		
3 "							45				S. W^{d}.	2		
4 "							45							
5 "							46							b.
6 "							46				W^{d}.	1		
7 "							46							
8 "	29·074	35·5	36	46°	39	43	46		70°					
9 "							46	42°			Calm.	0		
10 "							46							
11 "	29·084	47	46	61	49	43	46		74	50° 38°				
12 "	·084	49	47·5	70	56	43	46		98		N^{d}.	2		
1 P. M.	·088	50·5	49·5	52	50	43	46		76		Var.	1	Cirrus.	
2 "	·062	50	49·5	54	50·5	43	46		58					
3 "	·124	50·5	49·5	50	47·5	43	46	46°	30					
4 "	·150	49	48	60	50·5	43	46		68	50° 38°	W^{d}.	2	Cir. cum.	b. c.
5 "	·150	47·5	47		42	43	46		22					
6 "	·150	45	45·5	40·5	42	43	46							
7 "	·150	43·5	45	42	43	43	46							
8 "	·150	42	43·5		41	43	46							
9 "	·150	42	43·5		43	43	46				S. W^{d}.	4	Cir. stra.	
10 "	·188	42·5	42·5	40	40	43	46					2		
11 "	·180	40	41·5	42	42	43	46							c. d.
12 "	·180	41	41·5		41·5	43	46				Calm.	0		b. c.
Mean.	29·131	43·21	40·59	50·72	43·18	43	45·91	44						
April 10.														
1 A. M.							46°				Calm.	0	Cir. stra.	b. c.
2 "							46							
3 "							46	42°						
4 "							46				N. W.	2	Nimbus.	d.
5 "							46							
6 "							46							
7 "							46							
8 "							46							
9 "	29·100	40°	40·5°	43°	43°	43°	46	44°			W^{d}.			
10 "							46							
11 "	29·090	47	45	42	42	43	47							
12 "	·090	46·5	45	41·5	41·5	43	47		34°		S. W^{d}.			
1 P. M.	·100	46	45·5	42	43	43	47		44					
2 "	·100	48	47	44	45·5	43	47		44					
3 "	·126	47·5	47·5	44	45	43	47	44°	23			3		r.
4 "	·150	47	46·5	43	43·5	43	47		26					
5 "	·164	46·5	46	43	43·5	43	47		23					
6 "	·176	45	45	41	42	43	47							
7 "	·248	44	45	41	42	43	47				S. S. W.			
8 "	·310	44	44	41	41	43	47					4		
9 "	·362	43	43·5	40·5	40·5	43	48							
10 "	·400	42·5	43·5	40	40	43	46							
11 "	·406	42·5	43	40	41	43	46				S. W.			
12 "	·406	42	42·5	40·5	41	43	46			Rain ·4 in.		6		
Mean.	29·215	44·76	44·63	41·79	42·3	43	46·41	43·33						

OBSERVATORY.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	House.	Black Wool.	No Wool.	Hole.	Water.	Mast-head.			Direc.	Force.		
April 11.														
1 A. M.											S.W.	6	Nimbus.	q. p.
2 "														
3 "								43°						
4 "	29·464	41·5°	42	40°	40°	43°								
5 "											W^{d}.	5		r.
6 "														
7 "												4		
8 "	29·516	41·5	42°	40°	40°	43°								
9 "	·520	44	44·5	42	44	43		48°	36°		S.W^{d}.		Stratus.	c.
10 "	·520	44·5	44	44	44	43			50					
11 "	·520	45·5	45	44	45	43			45					
12 "	·520	45	43	44	46	43			40					
1 P. M.	·500	47	46	46	46	43	47°		46		N.W.	3	Cir. stra.	b. c.
2 "	·484	47	46	48	46	43	47		50					
3 "	·450	48	47	46	46	43	47	47°	38					
4 "	·428	47·5	47	46	46	43	47		30					
5 "	·410	47	46·5	46	46	43	47		22			4		
6 "	·384	45	45·5	43	43	43	47							
7 "	·370	45	45·5	44	45	43	47							
8 "	·340	44·5	45	43	44·5	43	47							
9 "	·320	44	44·5	44	45	43	47	44°				3		
10 "	·300	44	44·5	44	45	43	46							
11 "	·300	43·5	44	43·5	44	43	46							
12 "	·280	43·5	44	43	44·5	43	46			Rain·18 in.		2		
Mean.	29·421	44·88	44·77	43·86	44·38	43°	46·66	45·5						

RESULTS OF OBSERVATIONS.

BAROMETER.

Mean of 30 days,	29·587
Highest mean,	30·236
Lowest mean,	29·064
Highest point,	30·260
Lowest point,	28·910

THERMOMETER IN HOUSE.

Mean of 30 days,	44·45°
Highest mean,	49·89
Lowest mean,	37·47
Highest point,	55
Lowest point,	34

THERMOMETER, BULB COVERED WITH BLACK WOOL.

Mean of 24 days,	46·26°
Highest mean,	50·72
Lowest mean,	35·33
Highest point,	72
Lowest point,	31

THERMOMETER ATTACHED.

Mean of 30 days,	44·53°
Highest mean,	50·11
Lowest mean,	37·52
Highest point,	56
Lowest point,	32

THERMOMETER IN HOLE, 2½ FEET BELOW SURFACE.

Mean of 28 days,	43·28°
Highest mean,	46
Lowest mean,	42·6
Highest point,	46
Lowest point,	39·5

THERMOMETER UNCOVERED.

Mean of 30 days,	43·32°
Highest mean,	50·60
Lowest mean,	34
Highest point,	67
Lowest point,	31

U. S. SHIP VINCENNES.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 12.												
1 A. M.			46°	46°				Var.	1	Cir. st.	c.	
2 "			46	46								
3 "			45	46	45°	29·300						The Porpoise returned from the southern cruise on the 30th March, Sea-Gull on the 9th April, and Flying-Fish on the 11th April.
4 "			43	46				Calm.	0			
5 "			43	46								
6 "			42	45				Var.	1			
7 "			43	45								
8 "			45	46								
9 "			45	46	44°	29·300	Rain.	S. W^{d}.	3	Nimbus	c. r.	
10 "			45	46								
11 "	Orange Harbour.		45	46					4			
12 "			45	46								
1 P. M.			45	46								
2 "			46	46								
3 "			45	46	45°	29·300	Rain.		6		q. r.	
4 "			44	46								
5 "			43	46								
6 "			44	46					5		r.	
7 "			44	46							c.	
8 "			42	46								
9 "			41	46	40°	29·400		W^{d}.	3	Clear.	b.	
10 "			40	46								
11 "			40	46							b. w.	
12 "			40	46						Stratus.	c.	
Mean.			43·62	45·91	43·5	29·325						
April 13.												
1 A. M.			41°	46°				W^{d}.	4	Stratus.	c.	
2 "			41	46							r.	
3 "			41	46	39°	29·400	Rain.					
4 "			41	46								Brought the instruments, &c., from the Observatory.
5 "			40	46					5		q. r.	
6 "			41	46								
7 "			42	46								
8 "			44	46								
9 "			45	46	46°	29·400	Rain.		4		p.	
10 "			46	46								
11 "			48	46								
12 "			49	47						Cir. st.	c.	
1 P. M.			49	47					3			
2 "			49	47								
3 "			48	47	48°	29·410						
4 "	Orange Harbour.		47	47				W. S. W.	2			
5 "			46	46								
6 "			46	46								
7 "			45	46								
8 "			44	46				W^{d}.	2	Clear.	b. w.	
9 "			44	46	42°	29·400			1			
10 "			43	46					3			
11 "			42	46								
12 "			41	46								
Mean.			44·29	46·2	43·75	29·402						

U. S. SHIP VINCENNES.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 14.												
1 A. M.			39°	46°				W^d.	3	Clear.	b. w.	
2 "			38	46								
3 "			40	46	39°	29·350						
4 "			40	46				N. W^d.	2	Cir.cum	c.	
5 "			38	46								
6 "			40	46								
7 "			40	46								
8 "			42	46								
9 "			47	46	46°	29·300		W^d.	3	Cirrus.	b. c.	
10 "			47	46								
11 "			48	46								Water from off Cape Horn at 445 fathoms, temp. 28°, spec. grav. 1·0134.
12 "			48	46								
1 P. M.			49	46				W. N. W.	3	Nimbus	c.	
2 "			49	46								
3 "			49	46	48°							
4 "			43	46				S. W^d.	7		r.	
5 "			41	46								
6 "			41	46					8		h. r.	
7 "			41	46								
8 "			41	46								
9 "			41	46	42°	29·440	Rain.		9		q. h. r.	Short lulls, the sky clear and a moderate breeze.
10 "			41	46								
11 "			40	46								
12 "			40	46								
Mean.			42·62	46	43·75	29·363						
April 15.												
1 A. M.			40°	46°				S. W.	9	Stratus.	q. c. h. r.	Hail and rain with heavy squalls.
2 "			40	46								
3 "			40	46		29·540	Rain.					
4 "			39	46								
5 "			39	46					10		h. r.	
6 "			41	46								
7 "			42	46								
8 "			42	46								
9 "			42	46	41°	29·700	Rain.				q. h. r.	
10 "			43	46								
11 "			43	46								
12 "			44	46					9			
1 P. M.			44	46								
2 "			44	46								
3 "			44	46	44°	29·800						
4 "			43	46				S. W^d.	8		q. p.	
5 "			42	46								
6 "			41	46					6	Cir. st.	b. c.	
7 "			40	46								
8 "			40	46				Calm.	0			
9 "			40	45		29·840						
10 "			40	46				N. E^d.	2	Cirrus.	c.	
11 "			42	46								
12 "			43	46								
Mean.			41·58	45·95	42·5	29·720						

Orange Harbour.

Orange Harbour.

U. S. SHIP VINCENNES.

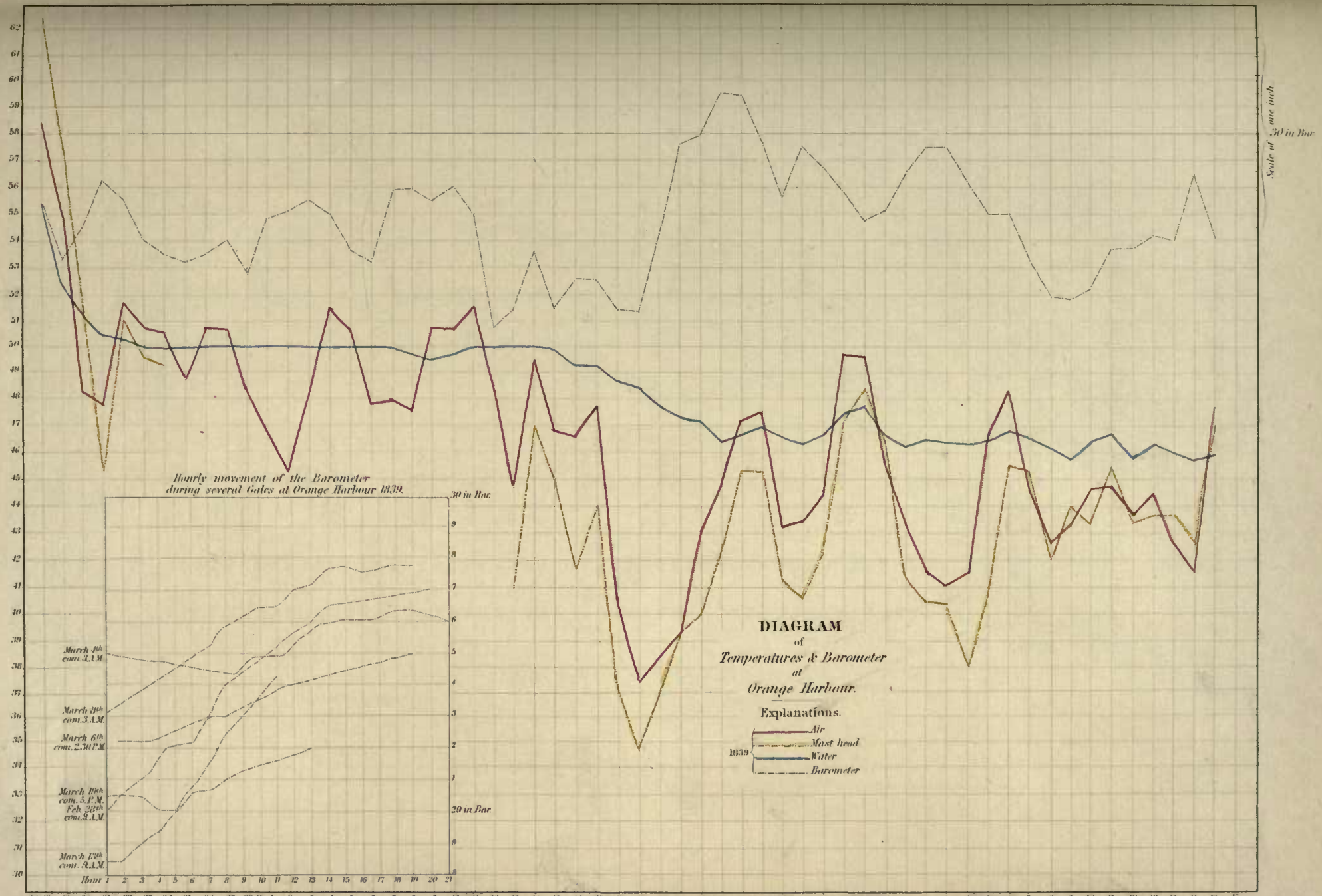
ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 16.												
1 A. M.			43°	46°				N. W^{d}.	3	Nimbus	c. p.	
2 "			43	46								
3 "			45	46	45°	29·600						
4 "			46	46					5		c.	
5 "			46	46						Stratus.		
6 "			47	46								
7 "			47	46								
8 "			48	46								
9 "			48	46	48°	29·420			4			
10 "			48	46								
11 "			49	46								
12 "			49	46								
1 P. M.			50	46					6			
2 "			51	46					5			
3 "	Orange Harbour.		51	46	48°	29·310	51° 48°					
4 "			51	46								
5 "			51	46					4			
6 "			51	46								
7 "			49	46				W^{d}.	3	Clear.	b.	
8 "			48	46						Cir. st.	b. c.	
9 "			47	46		29·220	58° 53°					
10 "			47	46				S. W.	5		c. q.	
11 "			46	46								
12 "			46	46								
Mean.			47·66	46°	47°	29·387						
April 17.												
1 A. M.			46°	46°				S. W.	4	Cir. st.	b. c.	
2 "			46	46								
3 "			44	46	40°	29·200				Clear.	b.	
4 "			43	46						Stratus.	c.	
5 "			43	46				W^{d}.				
6 "			44	46				N. W.	5			
7 "			44	46								
8 "			46	46								
9 "			48	46	50°	29·150	50° 46°	W. S. W.	6			
10 "			49	46								
11 "			51	46								
12 "			51	46								
1 P. M.			50	47					9		c. q.	Got under way.
2 "									6	Nimbus		
3 "	Scapenham Bay.				48°	29·120	Rain.		8			Came to in Scapenham Bay, in 15 fathoms water.
4 "			45	47				W^{d}.	7		q. p.	
5 "			44	47								
6 "			44	47								
7 "			44	47					8		q. r.	
8 "			44	47								
9 "			44	46	44°	29·100	Rain.		10			
10 "			44	46				S. W.	8		q. p.	
11 "			43	47					11			
12 "			44	46					7			
Mean.			45·5	46·31	45·5	29·142						

U. S. SHIP VINCENNES.

ORANGE HARBOUR, TIERRA DEL FUEGO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 18.												
1 A. M.			44°	46°				W^{d}.	7	Nimbus	q. r.	
2 "			44	46								
3 "			44	46	41°	29·120						
4 "			44	46								
5 "			44	46				S. W^{d}.	9		q. r. h.	
6 "			43	46								
7 "			42	46								
8 "			42	46								
9 "			42	47	40°	29·250			8		r. q.	
10 "			41	47					11			
11 "			40	47					7	Stratus.		
12 "			40	47								
1 P. M.			41	47					9		q.	
2 "			42	47					10			
3 "			40	46	38°	29·300			6			
4 "	Seapenham Bay.		40	46							r. m.	Got under way.
5 "			40	47								
6 "			39	46					8		r.	Came to in Orange Harbour, in 15 fathoms water.
7 "			38	47								
8 "			38	46						Nimbus		
9 "			38	46	38°	29·300						
10 "			38	46					9		q. r. h.	
11 "			38	46								
12 "			38	46								
Mean.			40·83	46·33	39·33	29·242						
April 19.												
1 A. M.			38°	46°				S. W.	8	Nimbus	r. h. s.	
2 "			37	46								
3 "			36	44	36°	29·400						
4 "			36	46								
5 "			34	46					7		q. h. s.	
6 "			34	45								
7 "			34	45								
8 "			34	45							c.	
9 "			35	43	38°	29·500				Clear.	b.	
10 "			35	44								
11 "			36	45						Nimbus	c.	
12 "			38	46								
1 P. M.			37	46					6		q. h. s.	
2 "			37	46								
3 "			37	46	34°	29·580						
4 "			38	46					4		c.	
5 "	Orange Harbour.		37	45								
6 "			36	45					3		c. q.	
7 "			38	46								
8 "			37	45								
9 "			35	45	34°	29·700		W. S. W.	5		h. s.	Intervals of clear weather.
10 "			36	45								
11 "			35	44								
12 "			35	44					6			
Mean.			36·04	45·16	35·5	29·545						


Hourly movement of the Barometer during several Gales at Orange Harbour 1839.
30 in Bar.
29 in Bar.
March 4th com. 3.A.M.
March 9th com. 3.A.M.
March 6th com. 2.30 P.M.
March 10th com. 5.P.M.
Feb. 28th com. 9.A.M.
March 13th com. 9.A.M.
Hour
DIAGRAM
of
Temperatures & Barometer
at
Orange Harbour.
Explanations.
1839
Air
Mast head
Water
Barometer
Scale of one inch
30 in Bar.

U. S. SHIP VINCENNES.

FROM ORANGE HARBOUR TO VALPARAISO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Diree.	Force.	Clouds.	Weather.	Remarks.
April 20.												
1 A. M.			36°	45°				S. W.	5	Stratus.	c. q.	
2 "			36	45								
3 "			36	45	36°	29·720						
4 "			36	45								
5 "			38	45					3		c.	
6 "			38	45								
7 "			38	45								
8 "			38	45				Sd.	4	Cir. stra.		
9 "			39	46	41°	29·860						Got under way.
10 "			43	46								
11 "			40	47								
12 "												
1 P. M.			40	46				S. Wd.	5			Steering to the southward and eastward.
2 "			39	46					4			
3 "			39	46	42°	29·900						
4 "			39	46								
5 "			38	46					4		b. c.	
6 "								Sd.		Clear.	b.	
7 "			38	46								
8 "			40	46								
9 "			39	46	39°	29·900		S. Wd.	3			
10 "			38	46						Cir.cum	b. c.	
11 "			39	46								
12 "			38	46				W. S. W.				
Mean.			38·4	45·68	39·5	29·845						
April 21.												
1 A. M.			38°	46°				Wd.	3	Cir. stra.	c.	Beating to the westward.
2 "			39	46								
3 "			39	46	39°	29·900		Var.	2			
4 "			39	46								
5 "			39	46				S. W.	4			
6 "			38	46								
7 "			39	46								
8 "			39	46				Var.	2			
9 "			39	46	42°	29·900						
10 "			39	46				Wd.	1			
11 "			40	46								
12 "			40	46							b. c.	
1 P. M.			41	47								Cape Horn N. 70° E.
2 "			41	47								False Cape N. 7° E.
3 "			41	47	42°	29·880	40° 30°					
4 "			41	47				Baffling.				
5 "			39	47								
6 "			38	46								
7 "			38	46								
8 "			38	46				S. Wd.	2	Clear.	b.	
9 "			36	46	38°	29·880	40° 26°		1			
10 "			36	46				Calm.	0			
11 "			36	46								
12 "			36	46				N. W.	1			
Mean.			38·7	46·2	40·25	29·890						

Orange Harbour.

Beating among the islands near Cape Horn.

U. S. SHIP VINCENNES.

FROM ORANGE HARBOUR TO VALPARAISO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 22.												
1 A. M.			37°	46°				N. W^{d}.	1	Clear.	b.	Course southwest.
2 "			37	46								
3 "			38	46	39°	29·860	39° 33°					
4 "			39	46								
5 "			38	46					2	Cir. st.	c.	
6 "			38	47								
7 "			39	47								Steering to the southward and westward.
8 "			41	47					4			
9 "			41	47	45°	29·760	41° 38°					
10 "			42	47								Land in sight to the northwest.
11 "			43	47						Stratus.	c. u.	
12 "	56° 15′	69° 59′	43	47								
1 P. M.			43	47								
2 "			45	45								Lost sight of land.
3 "			44	45	44°	29·550	45° 45°		6			
4 "			44	44							g.	
5 "			43	44								
6 "			43	43								
7 "			44	43					7			
8 "			43	43					9			
9 "						29·300	43° 43°			Nimbus		
10 "								NWbyW	10			
11 "											r.	
12 "												
Mean.			41·15	45·65	42·66	29·617						
April 23.												
1 A. M.			42°	44°				W. N. W.	10	Nimbus	r.	Steering to the southward.
2 "			41	43								
3 "			42	42	40°	29·100	Rain.		9			
4 "			42	44								
5 "			41	42							c.	
6 "			40	42				W^{d}.	7			
7 "			40	42								
8 "			41	42					9		c. q.	
9 "			42	42	42°	29·000			7		c.	
10 "			42	42								
11 "		D. R.	43	43								
12 "	57° 55′	72° 57′	43	42								
1 P. M.			43	42				W. by S.				
2 "			42	42					8		q. h.	
3 "			42	42	40°	28·950					q.	
4 "			42	42					9			
5 "			42	43								
6 "			42	42					10			
7 "			42	42								
8 "			42	43								
9 "			42	43	42°	29·300			11		q. h.	
10 "			42	43				W. S. W.			q.	
11 "			42	43					9		h.	
12 "			42	43					10		q. h.	
Mean.			41·83	42·5	41	29·087						

U. S. SHIP VINCENNES.

FROM ORANGE HARBOUR TO VALPARAISO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 24.												
1 A. M.			37°	39°				S. W^{d}.	10	Stratus.	c.	Steering to the southward.
2 "			37	39								
3 "			36·5	39	40°	29·100	38° 36°					Very heavy sea from the southward and westward.
4 "			36·5	39					9			
5 "			36	38					8			
6 "												
7 "									7			
8 "			42	38								
9 "			38	40	38°	29·240	40° 26°		8		q. h.	
10 "			39	41					7		c.	
11 "			40	42								
12 "	58° 16′	73° 00′	40	42						Nimbus		
1 P. M.			41	42							s.	
2 "			40	42								
3 "			40	42	40°	29·300	41° 40°					
4 "			40	42					6			
5 "			41	42					7		q.	
6 "			41	42								
7 "			40	42								
8 "			40	42					8		c. q.	
9 "			41	42	40°	29·000		W^{d}.				
10 "			42	42					9		q. r.	
11 "			42	42							c.	
12 "			42	42					10		q. r.	
Mean.			39·63	40·95	39·5	29·160						
April 25.												
1 A. M.			40°	42°				W. S. W.	10	Nimbus	q. r.	Steering to the southward.
2 "			41	42					11			
3 "			40	41	40°	28·900						
4 "			41	41								
5 "			42	42					10		q. m. r.	
6 "			42	43								
7 "			42	43								
8 "											c.	
9 "			41	42	40°	28·800		West.	9			
10 "			42	42								
11 "			42	42							c. q.	Steering to the northward and westward.
12 "	59° 05′	73° 55′	42	42								
1 P. M.			42	42				W. N. W.	7			Saw a large number of porpoises.
2 "			40	42							c.	
3 "			40	42	37°	28·700						Very heavy sea from the southwest.
4 "			39	42								
5 "			38	42					8		q. h. s.	
6 "			37	41					7		c.	
7 "			37	41							h.	
8 "			36	41						Stratus.	c.	
9 "			36	41	40°	28·800						
10 "			36	41								
11 "			36	41					6			
12 "			36	41								
Mean.			39·47	41·3	39·25	28·800						

U. S. SHIP VINCENNES.

FROM ORANGE HARBOUR TO VALPARAISO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 26.												
1 A. M.			37°	42°				W. by S.	7	Nimbus	q. h. s.	Steering to the northward and westward.
2 "			36	42					8			
3 "			38	42	37°	28·800						
4 "			36	42						Stratus.		
5 "			37	42								
6 "			35	42								
7 "			35	42					7		c. q.	
8 "			36	42								
9 "			36	42	36°	28·900					c.	
10 "			36	42					5			
11 "			37	42						Clear.	b.	Heavy swell from S.W.
12 "	57° 35′	74° 49′	38	42						Nimbus	h.	
1 P. M.			38	42				S. W.		Cir. stra.	c.	
2 "			38	42								
3 "			38	43	36°	29·200	41° 30°					
4 "			37	44								
5 "			38	42					6			
6 "			37	42								
7 "			37	42								
8 "			39	42								
9 "			39	42	38°	29·200						
10 "			39	42					7			
11 "			39	42						Clear.	b.	
12 "			38	44								
Mean.			37·2	42·2	36·75	29·025						
April 27.												
1 A. M.			38°	43°				S. S. W.	7	Clear.	b.	Steering to the northward and westward.
2 "			38	44						Nimbus	q. h.	
3 "			39	44	37°	29·200	38° 30°		8			
4 "			38	44							q. h. s.	
5 "			38	44								
6 "			37	44								
7 "			38	44								
8 "			39	44					7		q. s. r.	
9 "			38	45	37°	29·300						
10 "			38	44								
11 "			39	44								
12 "	55° 26′	76° 06′	39	44								
1 P. M.			40	44								
2 "			42	44				S. W.				
3 "			40	44	38°	29·500			8		q. r.	
4 "			40	44							q. h. r.	
5 "			41	44				W. S. W.				
6 "			40	44						Stratus.	q. c.	
7 "			41	44						Clear.	b. q.	
8 "			40	45							b. c.	
9 "			40	44	40°	29·350	42° 36°			Nimbus	q. h.	
10 "			41	44				West.				
11 "			42	44								
12 "			42	44					9			
Mean.			39·5	44·04	38	29·337						

U. S. SHIP VINCENNES.

FROM ORANGE HARBOUR TO VALPARAISO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 28.												
1 A. M.			42°	44°				W. by N.	9	Nimbus	c. q.	Steering to the southward.
2 "			42	44								
3 "			42	44	38°	29·000						
4 "			41	44								
5 "			40	44							r.	
6 "			41	44					8			
7 "			41	45				S.W.			c.	
8 "			40	45				S.S.W.	6	Stratus.		Steering to the westward.
9 "			37	44	38°	28·850						
10 "			38	44							c. u.	
11 "			39	44								
12 "	56° 33′	77° 50′	40	44								
1 P. M.			38	44				South.				
2 "			39	44				S.S.W.	8			
3 "			40	44		28·940						
4 "			40	44								
5 "			39	44							q. c.	
6 "			39	44								
7 "			38	44				S.W.				
8 "			39	44								Saw a ship.
9 "			40	44		29·300	38° 30°					
10 "			40	44					7			
11 "			39	44							q. h.	
12 "			39	44								
Mean.			39·7	44·08	38°	29·022						
April 29.												
1 A. M.			40°	44°				S.W^{d}.	7	Stratus.	c. q.	Course N.W.
2 "			40	45								
3 "			40	45	38°	29·500	39° 26°					
4 "			40	44								
5 "			40	44								
6 "			40	44								
7 "			40	44								
8 "			40	44							c. u.	
9 "			42	44	41°	29·700	41° 30°		6			Course N. N.W.
10 "			42	44							c. q.	
11 "			43	44								
12 "	53° 13′	80° 10′	43	45					7			
1 P. M.			43	45								
2 "			43	44								
3 "			43	45	42°	29·750	44° 30°					
4 "			44	47							c.	
5 "			44	47								
6 "			42	46								
7 "			43	46					8	Clear.	b.	
8 "			43	46								
9 "			43	47	40°	29·880	43° 36°					
10 "			42	47								
11 "			43	48					7			
12 "			44	48								
Mean.			41·95	45·29	40·25	29·707						

U. S. SHIP VINCENNES.

FROM ORANGE HARBOUR TO VALPARAISO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 30.												
1 A. M.			43°	47°				S. W^{d}.	6	Cir. stra.	b. c.	Course N.N.W.
2 "			43	47								
3 "			43	47	42°	29·800			5			
4 "			43	47								
5 "			43	47				W. N. W.	3			
6 "			43	47								
7 "			43	47				N. W.				
8 "			44	47								
9 "			44	47	42°	29·800					m. c.	Steering to the southward and westward.
10 "			44	47				N. W^{d}.				
11 "			44	47								
12 "	50° 40′	80° 09′	45	47					5	Nimbus	c. u.	
1 P. M.			45	47				N. N. W.				
2 "			46	48					6		q. r.	
3 "			47	48	44°	29·600			7			
4 "			47	48								
5 "			47	46				North.	9			
6 "			45	46								
7 "			46	46							c.	
8 "			46	47								
9 "			48	47		29·600		N. W.				
10 "			48	48				W. by N.	10			
11 "			48	48								
12 "			47	48				W. S. W.	11		q. r.	
Mean.			45	47·2	42·66	29·700						
May 1.												
1 A. M.			46°	47°				W. S. W.	11	Nimbus	q. r.	Course N. by W.
2 "			47	47					10			
3 "			47	47	45°	29·600						
4 "			47	47								
5 "			45	47					9		c. u.	
6 "			48	46								
7 "			48	48					8			
8 "			48	47								
9 "			49	49	45°	29·350			7	Stratus.		
10 "			48	48					6			
11 "			48	48							b. c.	
12 "	49° 45′	80° 30′	48	49				S. W^{d}.				
1 P. M.			48	49					5			
2 "			50	50								
3 "			49	50	46°	29·400						
4 "			48	50								
5 "			48	53								
6 "			48	54							p.	
7 "			47	51				W. S. W.				
8 "			47	51					6			
9 "			48	51	46°	29·550					c.	
10 "			48	51								
11 "			48	51								
12 "			48	51								
Mean.			47·33	49·25	45·5	29·475						

U. S. SHIP VINCENNES.

FROM ORANGE HARBOUR TO VALPARAISO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 2.												
1 A. M.			50°	53°				W. S. W.	6	Cir. stra.	c.	Steering to the northward.
2 "			50	54								
3 "			50	54	48°	29·600						
4 "			50	54								
5 "			49	52				W. by S.				
6 "			49	52								
7 "			50	52					7			
8 "			52	52				W. by N.				
9 "			51	52	49°	29·650		W. N. W.			q.	
10 "			51	52								
11 "			51	53								
12 "	45° 48′	78° 58′	52	53								
1 P. M.			53	53				West.		Stratus.	c. q.	Course north.
2 "			53	56								
3 "			52	55	49°	29·700						
4 "			53	55					8			
5 "			52	53								
6 "			51	53							c. d.	
7 "			50	53								
8 "			50	53								
9 "			52	54	49°	29·750			9			
10 "			52	54				W^{d}.				
11 "			50	52								
12 "			50	53				S. W^{d}.	8	Clear.	b.	
Mean.			50·95	53·2	48·75	29·675						
May 3.												
1 A. M.			51°	53°				S. W^{d}.	8	Cirrus.	b. c.	Course north.
2 "			50	53								
3 "			50	54	48°	29·800						
4 "			51	54					7			
5 "			51	54								
6 "			51	54								
7 "			51	54					5			
8 "			52	54						Clear.	b.	
9 "			52	54	53°	29·900						
10 "			53	55								
11 "			54	55								
12 "	42° 59′	78° 11′	54	54								
1 P. M.			55	55				W^{d}.	4			
2 "			55	55								Temp. water at 200 fathoms, 46°.
3 "			55	55	51°	30·000						
4 "			54	55								
5 "												Caught several albatross.
6 "												
7 "			53	55				N. W^{d}.	3			Steering to the northward and westward.
8 "			52	55				N^{d}.				
9 "			52	55	50°	30·050						
10 "			53	55							b. w.	
11 "			53	55								
12 "			54	55								
Mean.			52·54	54·86	50·5	29·937						

U. S. SHIP VINCENNES.

FROM ORANGE HARBOUR TO VALPARAISO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 4.												
1 A. M.			54°	55°				N. ½ W.	4	Clear.	b.	Steering to the westward.
2 "			54	55				N. by W.				
3 "			55	55	53°	30·050		N.W.				
4 "			56	55								
5 "			54	55								
6 "			54	55					5	Cir. stra.	b. c.	
7 "			55	55								
8 "			55	55								
9 "			58	56	57°	29·900						
10 "			58	57								
11 "			58	57					6			Steering to the northward and eastward.
12 "	42° 7′	78° 18′	59	57								
1 P. M.			60	57								
2 "			58	57						Stratus.	c.	
3 "			59	57	56°	29·900						
4 "			58	57					5		c. m.	
5 "			56	56								Steering to the westward.
6 "			56	56								
7 "			56	56								
8 "			56	56					4			
9 "			57	57	55°	29·900				Cir. stra.	b. c.	
10 "			58	57								
11 "			58	57								
12 "			58	57								
Mean.			56·66	56·12	55·25	29·937						
May 5.												
1 A. M.				57°				N.W.	4	Cirrus.	b. c.	Steering to the westward.
2 "				57								
3 "			58°	57	53°	29·800						
4 "			58	57								
5 "			59	57					5	Nimbus	c.	
6 "			58	57								
7 "			58	57								
8 "			58	57							c. r.	
9 "			58	57	56°	29·800	Rain.					
10 "			59	57					6			
11 "			59	57								Steering to the northward and eastward.
12 "	41° 12′	78° 24′	59	57								
1 P. M.			59·5	57					5		c. d.	
2 "			59	57				W^d.				
3 "			59	57	57°	29·900		N.W^d.				
4 "								N. N.W.				
5 "			58	57							g. r.	
6 "			58	57								
7 "			59	58								
8 "			59	58							c. d.	
9 "			59	58	56°	29·950			4			
10 "			58	58				N.W.			g. u. r.	
11 "			58	58								
12 "			58	58								
Mean.			58·71	57·28	55·5	29·862						

U. S. SHIP VINCENNES.

FROM ORANGE HARBOUR TO VALPARAISO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 6.												
1 A. M.			59°	58°				N.W.	3	Over-	g. d.	Steering to the northward and eastward.
2 "			59	58						cast.		
3 "			59	58	56°	29·950		N.N.W.				
4 "			59	58								
5 "			58	59							g. m.	
6 "			59	59								
7 "			59	58				North.	4			
8 "			59	59				N. by E.				
9 "			60	58	57°	29·900			5		f.	Steering to the northward and westward.
10 "			60	58				North.				
11 "			60	58								
12 "	40° 15′	78° 04′	60	58								
1 P. M.			59	58				N. by W.				
2 "			60	50					4	Hazy.	m.	Steering to the northward and eastward.
3 "			60	59	56°	29·880		N.N.W.				
4 "			60	58				N.N.W.		Cir. stra.	c.	
5 "			59	58					5			
6 "			59	58								
7 "			59	58					6			
8 "			60	59					5			
9 "			58	58	56°	29·960						
10 "			57	57							b. c.	
11 "			57	56								
12 "			57	56					3			
Mean.			59	57·66	56·25	29·922						
May 7.												
1 A. M.			58°	57°				N. by W.	2	Cir. stra.	b. c.	Steering to the northward and eastward.
2 "			58	57								
3 "			58	57	56°	29·900						
4 "			58	57				N.N.W.	3			
5 "			57	58								
6 "			57	56							f.	
7 "			58	57					4			
8 "			60	56				North.	4	Clear.	b.	
9 "			61	57	62°	29·750	62° 58°					
10 "			62	58								
11 "			61	58								
12 "	40° 20′	76° 24′	60	59				N.N.W.				
1 P. M.			60	59					2			
2 "			61	59								
3 "			60	59	61°	29·750	60° 58°		3			
4 "			59	59				N. by W.	4			
5 "			59	59						Cir.cum	b. c.	Steering to the westward.
6 "			58	59				North.				
7 "			58	59								
8 "			58	59								
9 "			59	59	56°	29·650			6			
10 "			59	59				N.N.W.		Cum.	u. m. c.	
11 "			59	59								
12 "			59	59					6			
Mean.			59·45	57·45	58·75	29·762						

U. S. SHIP VINCENNES.

FROM ORANGE HARBOUR TO VALPARAISO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 8.												
1 A. M.			59°	58°				North.	5	Over-	o. d.	Steering to the west-
2 "			59	58						cast.	o.	ward.
3 "			59	58	58°	29·650					d.	
4 "			59	58				N.N.W.				
5 "			58	58					4		c. r.	
6 "			59	58								
7 "			59	59								
8 "			59	59								
9 "			59	59	58°	29·650	56° 54°				c. m.	
10 "			59	59								
11 "			59	59								Steering to the north-
12 "	39° 17′	77° 19′	60	59				N. W.				ward and eastward.
1 P. M.			60	59							o. d.	
2 "			60	59								
3 "			60	59	58°	29·750	60° 56°					
4 "			60	59								
5 "			59	59					3	Cir. stra.	c.	
6 "			59	58					2			
7 "			59	58								
8 "			59	58								
9 "			59	59	58°	29·700						
10 "			58	58						Clear.	b.	
11 "			59	59								
12 "			59	59					3			
Mean.			59·12	58·56	58	29·687						
May 9.												
1 A. M.			58°	59°				N. W^{d}.	3	Clear.	m.	Steering to the north-
2 "			58	59								ward and eastward.
3 "			58	59	54°	29·750						
4 "			58	59								
5 "			58	59							b.	
6 "			58	59								
7 "			58	59								
8 "			58	58					4			
9 "			59	58	51°	29·700						
10 "			60	58					5			
11 "			60	58								
12 "	38° 24′	75° 41′	60	58								
1 P. M.			60	58				N.N.W.				
2 "			60	58				NWbyW	4			Steering to the west-
3 "			59	58	58°	29·750	60° 56°					ward.
4 "			58	58						Cirrus.	b. c.	
5 "			58	58								
6 "			58	58								
7 "			58	58				N.N.W.		Clear.	b.	
8 "			58	58					5			
9 "			58	58	58°	29·800						Steering to the north-
10 "			58	58								ward and eastward.
11 "			58	58						Cir. stra.	b. c.	
12 "			58	58					6			
Mean.			58·5	58·29	55·25	29·750						

U. S. SHIP VINCENNES.

FROM ORANGE HARBOUR TO VALPARAISO.

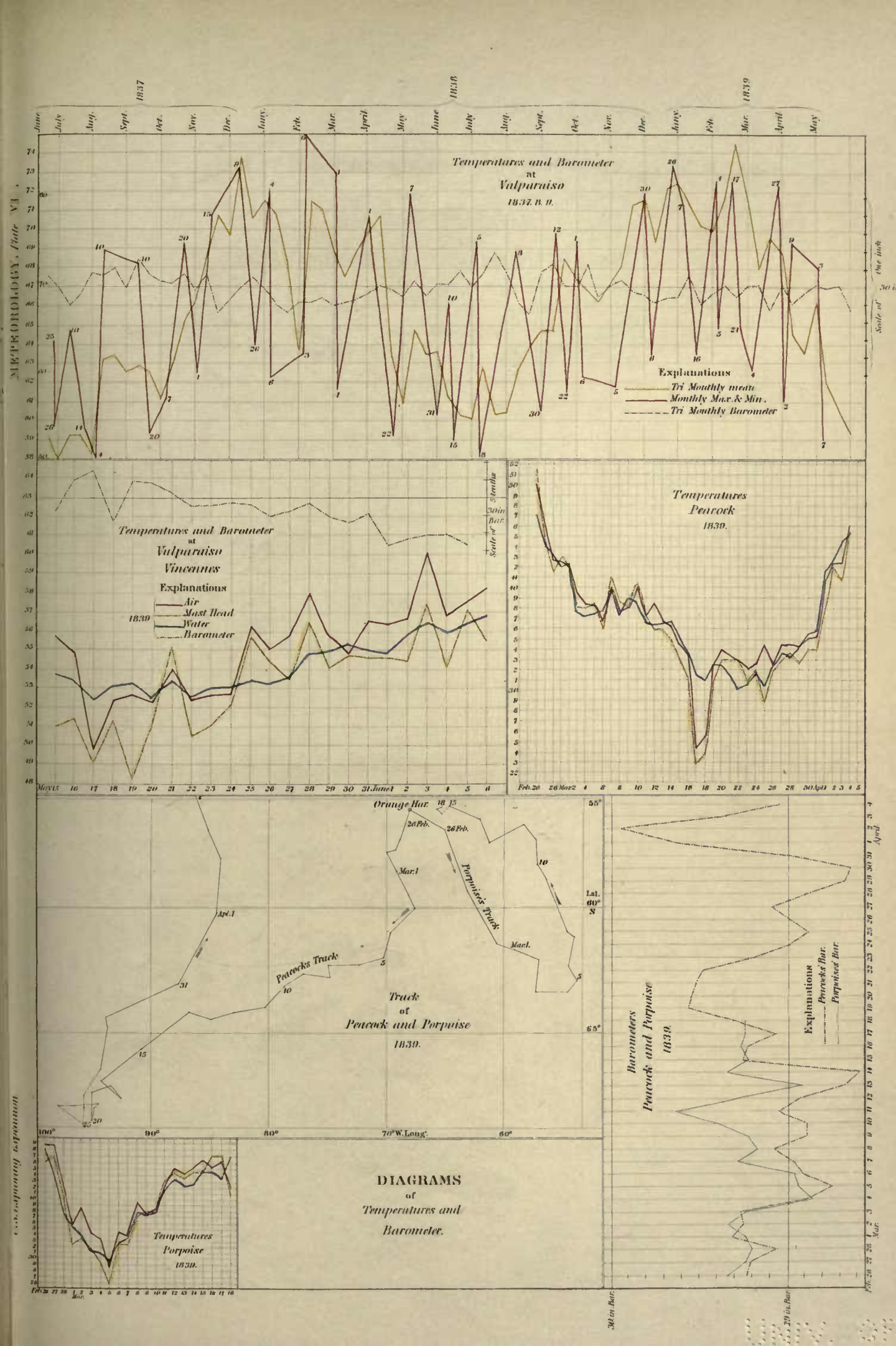
1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 10.												
1 A. M.			58°	58°				N.N.W.	6	Nimbus	c.	Steering to the N.E.
2 "			57	58								
3 "			57	58	54°							
4 "			56	57								
5 "			55	56					5			Island of Mocha in sight.
6 "			56	57					4			
7 "			56	57								Steering to the westward.
8 "			56	57								
9 "			56	56	54°	29·800				Stratus.		
10 "			56	56								
11 "			56	56								
12 "	38° 40′	75° 03′	58	56								Heavy swell from the N.W.
1 P. M.			58	57								
2 "			58	57								
3 "			58	57	55°	29·980						Lost sight of the Island.
4 "			58	57								
5 "			58	57								
6 "			58	57				NWbyN.	6			
7 "			58	57								
8 "			57	57				N.N.W.	7		c. q.	
9 "			57	57	56°	29·700						
10 "			58	58							c.	
11 "			59	58					6			
12 "			59	59								
Mean.			57·2	57·08	54·75	29·826						
May 11.												
1 A. M.			60°	60°				NWbyN.	7	Stratus.	c. q.	Steering to the westward.
2 "			60	60								
3 "			60	60	57°	29·480			8			
4 "			60	60								
5 "			60	60					9		q. d.	
6 "			60	60								
7 "			61	60							q. r.	
8 "			61	60								
9 "			60	60	57°	29·350			10		r.	
10 "			60	60				N.N.W.	11			
11 "			60	60					10			
12 "	38° 47′	76° 55′	60	60					9			
1 P. M.			61	59								
2 "			61	59				N.W.	8		q. p.	
3 "			60	59		29·450						Course N.N.E.
4 "			61	60				Wd.	7	Cir. stra.	c.	
5 "			60	60								
6 "								W.N.W.				
7 "			59	60								
8 "			58	60						Clear.	b.	
9 "			58	58	56°	29·800						
10 "			58	57						Stratus.	b. c. l.	
11 "			58	57								
12 "			57	57								
Mean.			59·69	59·39	56·66	29·520						

U. S. SHIP VINCENNES.

FROM ORANGE HARBOUR TO VALPARAISO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 12.												
1 A. M.			58°	59°				W^d.	6	Clear.	b. l.	Course N. N. E.
2 "			58	59								
3 "			58	59	58°	29·750						
4 "			58	59								
5 "			58	59					5		b.	
6 "			58	59								
7 "			58	59								Land in sight to the N. E.
8 "			58	59								
9 "			58	59	58°	29·800	62° 58°		6			
10 "			60	59								Heavy swell from the westward.
11 "			60	59								
12 "	37° 04′	74° 57′	61	59				N. W^d.				
1 P. M.			60	58								
2 "			61	58								
3 "			61	58	54°	29·820	58° 56°					
4 "			60	58				W^d.		Nimbus	c. u. l.	Cape St. Maria bore S. 85° E.
5 "			59	58								
6 "			58	58								
7 "			58	58				S. W^d.			q.	
8 "			58	58							q. l. r.	
9 "			56	58	54°	29·900		W^d.				
10 "			56	57				N. W^d.	5		c.	
11 "			55	57				W. N. W.		Clear.	b.	
12 "			55	57					4			
Mean.			58·33	58·37	56	29·817						
May 13.												
1 A. M.			57°	56°				W. N. W.	3	Clear.	b.	Course north.
2 "			55	56								
3 "			54	54	53°							
4 "			54	56								Passed a vessel.
5 "			54	56								
6 "			56	56								Land in sight to the eastward.
7 "			58	57								
8 "			58	57								Course N. by E.
9 "			55	56	54°	29·950	56° 55°					
10 "			56	56				W^d.				
11 "			57	56								
12 "	36° 02′	74° 36′	59	57						Cirrus.		
1 P. M.			60	57								
2 "			60	57								
3 "			60	57	60°	30·000	57° 56°					
4 "			58	57								
5 "			57	57								
6 "			56	57								
7 "			56	57						Clear.		
8 "			54	56								
9 "			55	57	54°	30·000	55° 55°					
10 "			55	56								
11 "			54	56								
12 "			54	56								
Mean.			56·33	56·37	55·25	29·983						

METEOROLOGY. Plate VI.



U. S. SHIP VINCENNES.

FROM ORANGE HARBOUR TO VALPARAISO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 14.												
1 A. M.			56°	56°				Var.	3	Clear.	b. w.	Course N. by E.
2 "			53	56								
3 "			53	55	52°	29·980		S. W^{d}.				
4 "			53	54					4			
5 "			53	56				S^{d}.			b.	
6 "			52	56								Land in sight to the eastward.
7 "			53	56				S. S. E.				
8 "			53	56								
9 "			54	56	56°	30·000						Standing along the coast of Chili.
10 "			55	57								
11 "			56	57								
12 "	34° 37′	72° 45′	56	57								
1 P. M.			57	57					3			
2 "			57									
3 "			56		54°	29·900			4			
4 "			56									
5 "			52	56								
6 "			53	56				S. E^{d}.				
7 "			54	56								Course N. by W.
8 "			54	56								
9 "			52	56	52°	29·900						
10 "			52	56							b. w.	
11 "			52	56								
12 "			52	56								
Mean.			53·91	56·04	53·5	29·945						
May 15.												
1 A. M.			54°	54°				S. E^{d}.	4	Clear.	b. w.	
2 "			52	54								
3 "			52	54	51°	29·950						
4 "			52	54								
5 "			52	54								
6 "			55	53								
7 "			55	54					3			
8 "			60	54								
9 "			62	54		29·900						
10 "			61	54					2			Anchored in Valparaiso Bay, in 30 fathoms water.
11 "			60	54								
12 "	Valparaiso.		60	54				Calm.	0			
1 P. M.			60	54								
2 "			59	54				Var.	1			
3 "			58	54		29·800				Cir. stra.	e.	
4 "			56	54				S. W^{d}.	2			
5 "			55	53								
6 "			54	53								
7 "			54	53								
8 "			54	53								
9 "			54	53		29·800		Calm.	0			
10 "			53	53								
11 "			53	53								
12 "			53	53								
Mean.			55·75	53·62	51	29·887						

U. S. SHIP VINCENNES.

VALPARAISO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 16.								Calm.	0	Cirrus.	b. c.	
1 A. M.												
2 "												
3 "					47°	30·050		Var.	1			
4 "												
5 "			50°	53°				E^{d}.	1			
6 "			50	53								
7 "			51	53					3			
8 "			56	52								
9 "			57	54	51°	30·060				Clear.	b.	
10 "			57	54				S. E^{d}.	2			
11 "			59	54								
12 "			60	54								
1 P. M.			60	54								
2 "			59	54								
3 "	Valparaiso.		59	54	56°	30·120	56° 42°	S^{d}.	3			
4 "			57	54								
5 "			54	54								Porpoise arrived.
6 "			53	53								
7 "			52	53								
8 "			52	53								
9 "			53	53	51°		54° 40°	S. E^{d}.	1			
10 "			53	53							b. w.	
11 "			54	53								
12 "			52	53								
Mean.			54·9	53·4	51·25	30·077						
May 17.												
1 A. M.			49°	51°				S^{d}.	1	Clear.	b. w.	
2 "			49	51								
3 "			49	51	48°	30·100	56° 40°					
4 "			49	51				Calm.	0			
5 "			47	53				N^{d}.	2			
6 "			47	53								
7 "			48	53							b.	
8 "			50	53					1			
9 "			52	52		30·120	60° 48°	Calm.	0			
10 "			53	52								
11 "								S. E^{d}.				
12 "												
1 P. M.								S^{d}.	3			
2 "												
3 "	Valparaiso.					30·110	53° 48°					
4 "									4			
5 "												
6 "								S. E^{d}.	3			
7 "												
8 "												
9 "			51	53	50°		53° 46°		1		b. w.	
10 "			51	53								
11 "			52	53								
12 "			52	53								
Mean.			49·58	52·28	49	30·110						

U. S. SHIP VINCENNES.

VALPARAISO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 18.												
1 A. M.			50°	53°				S. E^{d}.	1	Clear.	b. w.	
2 "			48	53								
3 "			45	51	47°	29·800	53° 46°					
4 "			46	51				Var.				
5 "			46	52							b.	
6 "			46	52								
7 "			46	53				S. E^{d}.	3			
8 "			46	53								
9 "			53	55	51°	29·800	52° 40°					
10 "			59	55					4			
11 "			59	55								
12 "			59	54						Cirrus.		
1 P. M.			59	51					3			Preparing Observatory.
2 "			60	55								
3 "	Valparaiso.		60	51	56°	29·820	61° 50°	Var.	1			
4 "			60	54								
5 "			59	55								
6 "												
7 "								S. E.	1			
8 "										Cir.cum	b. c.	
9 "			52	53	51°	29·840	56° 48°		3			
10 "			50	52						Clear.	b. w.	
11 "			48	53					2			
12 "			48	53								
Mean.			52·33	53·05	51·25	29·815						

OBSERVATORY, VALPARAISO.

INSTRUMENTS USED ON SHORE.

Standard barometer.

Thermometer attached.

Thermometer, the bulb covered with black wool, hanging free one foot and a half from the ground, with a north-and-south exposure.

Thermometer, with bulb uncovered, in same situation.

Thermometer in shade in the open air.

Thermometer in a hole six feet deep, and one foot in diameter.

Photometer.

The temperature of water, and the thermometer at mast-head, were observed on board the Vincennes.

OBSERVATORY.

VALPARAISO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	No Wool.	Shade.	Hole.	Water.	Mast-head.			Direc.	Force.		
May 19.														
1 A. M.							52°				S^{d}.	3	Clear.	b.
2 "							52							
3 "	29·880	46°					52	48°						
4 "							52							
5 "							52					1		
6 "							52							
7 "							52				S. E^{d}.	3		
8 "							53							
9 "	29·880	54					54							
10 "							54							
11 "							54							
12 "			80°	68°	57°		54		80°	58° 48°				
1 P. M.			98	73	60		54		80					
2 "			96	70	58		54		78	78° 50°				
3 "	29·860	59	76	60	56		54		bulb		Calm.	0		
4 "							54							
5 "							54							
6 "			50	50	56		54		70		S^{d}.	2		
7 "							54							
8 "			48	48	56		54		25					
9 "	29·840	52	48	48			54	48°	20	48° 48°	Var.	1	Cir. stra.	b.c.w.
10 "			47	47			54		20					
11 "							52		20					
12 "							51				Calm.	0		
Mean.	29·865	52·75	67·87	58	57·16		53·16	48						
May 20.														
1 A. M.							51°				Calm.	0	Cir. cum.	b.c.w.
2 "							51							
3 "	29·860	47°					51	48°			Var.	1		
4 "							51							
5 "							51							b. c.
6 "							52							
7 "							52							
8 "							52						Clear.	b.
9 "	29·900	54					52	55°						
10 "			52°	52°			52		40°			2	Stratus.	c.
11 "			56	54			53		50					
12 "			59	56			53		56	56° 50°				
1 P. M.			60	57			53		50		N^{d}.	3	Cir. stra.	b.c.
2 "			54	53			53		35					
3 "	29·860	55	54	54			53	50°	33			1		
4 "			52	53			53		24·5		Calm.	0		
5 "			52	53			53		20		S. E^{d}.	1		c.
6 "			50	50			53		20					
7 "			50	50			53		20					
8 "			50	50			53				Calm.	0		
9 "	29·840	53	50	50			53			50° 48°				
10 "			50	50			53							
11 "			50	50			53				S^{d}.	1		
12 "			48	48			53						Cirrus.	b.c.
Mean.	29·865	52·25	52·78	52·27			52·37	51						

OBSERVATORY.

VALPARAISO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	No Wool.	Shade.	Hole.	Water.	Mast-head.			Diree.	Force.		
May 21.														
1 A. M.			50°	51·5°			52°				S. E^{d}.	1	Cir. cum.	c.
2 "			50	51			52							
3 "	29·810	51°	50	51			52	52°				2		
4 "							52							
5 "							52				Var.	1	Cumulus	
6 "			51	52			53							
7 "			51	53			53		24·5°					
8 "			51·5	52·5			53		29·5					
9 "	29·820	55	59	58			53	56°	47					
10 "			58	56·5			53		70	56° 45°	N. E^{d}.	2	Clear.	b.
11 "			59	57			54		52				Cirrus.	b. c.
12 "			63	62			54		64	59° 50°				
1 P. M.			74	68			54		98				Clear.	b.
2 "			73	65			54		73				Cumulus	b. c.
3 "	29·830	59	68	60			54	62°	45	59° 52°		3	Cir. cum.	c.
4 "			66	60			53		35					
5 "			59	59			53		10			2		
6 "			57	57			53		10		Calm.	0	Clear.	b.
7 "			52	52	53°		53							
8 "			51	51	51·5		53							
9 "	29·830	51	48	48	51		52	50°		48° 44°	Var.	1		f.
10 "							52							
11 "			49	48·5			52							F.
12 "			48	48·5	48		52				Calm.	0		
Mean.	29·822	54	56·52	54·9	50·82		53·66	55						
May 22.														
1 A. M.			48°	47·5°		48°	52°				Calm.	0	Foggy.	F.
2 "			48	47·5		48	52							
3 "	29·724	50°					52	50°						
4 "							52							
5 "							52							
6 "							52							
7 "			47	48	47°		52		22°					
8 "			47	48	47		52							
9 "	29·724	51	48	48	47		52	51°						f.
10 "			56	54			52							
11 "			59	54	58	63	52			58° 51°			Clear.	b.
12 "	29·770		75	62	58	64	52		58					
1 P. M.	·768		68	59	57	64	52		50	57° 56°	E^{d}.	1	Cirrus.	b. c.
2 "	·750		70	63	57	63	53		41					
3 "	·724	57	72	61	57	63	54		32	57° 55°				
4 "	·720		58	58	56	63	53		26		Calm.	0	Cir. stra.	
5 "	·712		54	54	56	63	52		25	56° 52°				
6 "	·712		52	53	48	62	53		22					f.
7 "	·712		48	48·5	47	63	53		21	58° 51°				
8 "	·712		48	48	51	63	53		22					
9 "	·712	52	49	49	51	63	53	50°	22	59° 54°	E^{d}.	1		F.
10 "	·712		51	50	51	63	53		22					
11 "	·714		51	50	51	63	53		24	57° 56°				
12 "	·716		51	50	51	63	53		24					
Mean.	29·724	52·5	55	53·6	52·44	61·18	52·45	50·33						

OBSERVATORY.

VALPARAISO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	No Wool.	Shade.	Hole.	Water.	Mast-head.			Direc.	Force.		
May 23.														
1 A. M.	29·716		49°	48°	58°	62°	53°		22°	59° 54°	Calm.	0	Misty.	f.
2 "	·718		49	48	57	62	53		22					
3 "	·716	53°	48	47·5	57	62	53	50°	23					
4 "	·716		48	47·5	57	62	53		22	60° 56°				
5 "	·716		48	48		63	52				Var.	1		F.
6 "	·716		48·5	48·5		63	52							
7 "	·716		49	49		63	52		23	57° 54°	Calm.	0		
8 "	·760		50	50		62	53		25·5					
9 "			52	51·5	50	62	53	50°	26					
10 "	29·772		51·5	52·5	55·5	61·5	53		31		N. E^{d}.	1		f.
11 "	·760		55	54	55	62	54							
12 "	·760	55	57	56	54	61	54		70					
1 P. M.	·762	55	54	53	52	62	54		47	52° 50°				
2 "	·750	57	60	55	54	62	54		57					
3 "	·750	57	62	55	55	62	54	53°	61					
4 "	·736	56	59	53	53·5	63	54		38·5					
5 "	·700	55	51	48	51	62·5	54		20					
6 "	·700	50	48	48	50·5	62	54		15		E^{d}.	2		
7 "	·700	53	48	48	50	62	53		15					
8 "	·760	52	47	47	48	62	53		15	47° 47°				
9 "	·696	52	47	47	48	62	53	51°	15		Calm.	0		f.
10 "	·703	52	47	47	48	62	52		15					
11 "	·700	50·5	46·5	46	47	62·5	52		11					
12 "	·680	49	46	46	46·5	62·5	52		10					
Mean.	29·726	53·3	50·69	49·66	53·25	62·16	53·08	51						
May 24.														
1 A. M.	29·760	51°	46°	46°	46°	61°	52°.		18°		E^{d}.	1	Overcast.	F.
2 "	·642	51	46	46	46	61	52		18					
3 "	·650	49	47	47	47	61	52	50°	18					
4 "	·654	49	47	47	47	60·5	52		18					
5 "	·700		50	50	50	62	52		18		N. E^{d}.	2		f.
6 "	·760		51	51	50·5	62	53		19					
7 "	·790		51	51	51	62	53		20					
8 "	·792		51	51	51	62	53		20					
9 "	·804		51·5	51·5	51	62	53	52°				1		
10 "	·840		52·5	53	52	62	53							
11 "	·840		55	55·5	54	62	53				Calm.	0		
12 "	·820		55	56·5	54·5	62	53							
1 P. M.	·826		56	56	56	62	54				S. W^{d}.	3	Cir. stra.	c.
2 "	·812	56	54	55	55	62	54							
3 "	·762	55	54	55	55	62	54	54°						
4 "	·736	55	57	58	58	62	54							
5 "	·730		56	56	57	62	54							
6 "	·730	54·5	52	52	53	62	54							
7 "	·740		52	52	53	62	54							
8 "	·760		52	52	53	62	53							
9 "	·760			53	53	61	53	52°			Var.	1		f.
10 "	·760			53·5	53	61·5	53							
11 "	·760	54		54	54	62	53				Calm.	0		
12 "	·760	54		54	54	62	53							
Mean.	29·757	52·86	51·8	52·33	52·25	61·75	53·08	52						

OBSERVATORY.

VALPARAISO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	No Wool.	Shade.	Hole.	Water.	Mast-head.			Direc.	Force.		
May 25.									Upset and broken.					
1 A. M.							53°				Var.	2	Cir. stra.	b. c.
2 "							53							
3 "							53	52°						
4 "							53							
5 "							53							
6 "							53							
7 "	29·751	53°		54°	54°		53							
8 "	·751		55°	54	54		54							
9 "	·883		56	55	55	62°	54	55°			Nd.	1	Cirrus.	
10 "	·883		56	55	55	62	54							
11 "	·883		56	55·5	55·5	62	54							
12 "	·800	55	56	55	55	62	54							
1 P. M.	·782	57	60	58·5	57	62	53							
2 "	·774	57	70	62·5	62	62	53						Clear.	b.
3 "	·776	58	72	67	68	62	53	60°						
4 "	·726	62	68	64	65	62	53							
5 "	·730	62	62	62	63	62	53							
6 "	·730	60	57	55	56	62	53				Var.	1		
7 "	·730	57	53	53	55	62	54							
8 "	·750	57	54	54	55·5	62	54							
9 "	·750	56	54	54	55	62	54							
10 "	·750	55·5	54	54	55	62	53				S.Wd.			b. w.
11 "	·750	54·5	52	54	53	62	53							
12 "	·750		52	53	53	62	53							
Mean.	29·766	58	58·05	56·61	56	62	53·33	55·66						
May 26.														
1 A. M.	29·720	54°	52°	53°	53°	62°	52°				S. W.	1	Clear.	b. w.
2 "	·681	54	52	52·5	53	62	52							
3 "	·680	54·5	52	54	54	62	52	51°						
4 "	·682		52	54	54	62	52				Wd.			
5 "	·682		51	54	54	62	52							b.
6 "	·682	54·5	52	54	54	62	53							
7 "	·682	53·5	52	53	53	62	53							
8 "	·670	53·5	56	56	56	62	54							
9 "	·670	58	63	58·5	58	62·5	54	57°			Var.			
10 "	·672	58	62	59	59	62	54							
11 "	·680	59·5	67	63	61	62·5	54							
12 "	·690	60	67	63·5	62	62·5	54							
1 P. M.	·682	61	67	62	61	63	54				S. Wd.	2		
2 "	·672	61·5	66·5	62·5	62·5	63	54							
3 "	·660	60·5	65	64·5	58	63	54	58°						
4 "	·642	57	59	57	54	63	54				Var.	1		
5 "	·640	58	57	56·5	57	63	54							
6 "	·640	57	56	55	56	62	54							
7 "	·640	56	54	53	53·5	62	53							
8 "	·690	55·5	54·5	54	54	62·5	53				Sd.	2		
9 "	·650	55·5	54	54	54	62	53	52°						
10 "	·650	55	54	54	54	62	53				Calm.	0		b. w.
11 "	·660	55	54·5	55	54·5	62	53				Nd.	1		
12 "	·680	55·5	54·5	55	54·5	62	53							
Mean.	29·671	56·68	57·25	56·54	56	62·25	53·25	54·5						

OBSERVATORY.

VALPARAISO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	No Wool.	Shade.	Hole.	Water.	Mast-head.			Direc.	Force.		
May 27.														
1 A. M.							54°				N. E^{d}.	2	Nimbus.	c.
2 "							54							
3 "	29·620	54°	52°	52°	53°	62°	54	53°						
4 "	·600	53	50	58	57	62	54				Var.	1		r. f.
5 "	·600	53	52	54	54	62	52							
6 "	·620	53	53	53	54	62	52							
7 "	·622	52	53	53	54	62	52							
8 "	·674	54	54	53	54	62·5	53				N. E^{d}.	3		f. d.
9 "	·700	54·5	54	54	54	62·5	53	53°						
10 "	·750	55	56	55	55	62·5	53							
11 "	·738	56	54	54	55	62·5	54							
12 "	·738	56	55	55	55	62	54							
1 P. M.	·738	57	55	56	56	62	54							f.
2 "	·738	57·5	55	56	56	62	54							
3 "	·738	58	55	55	56	62	54	53°						
4 "	·738	57	55·5	55	55·5	62	54					2		r.
5 "	·738	57	54	55	55·5	62	54							
6 "	·750	56	54	54	55	62	54							
7 "	·750	56	56	56	56	62	54							
8 "	·750	56·5	54	54	55·5	62	54							
9 "	·764	57	55	55	56	62	54	55°				1		d.
10 "	·764	56·5	55	55	56·5	62	54							
11 "	·776	56	56	56	56	62	54							f. d.
12 "	·770	56	55·5	55·5	55·5	62	54			Rain ·4 in.	N^{d}.	2		
Mean.	29·712	56·09	54·55	54·68	55·09	62·08	53·62	53·5						
May 28.														
1 A. M.	29·770	56°	56°	56°	56°	62°	54°		25°	61° 58°	N. W^{d}.	1	Overcast.	d.
2 "	·770	56·5	56	56	57	62	54		24					
3 "	·770	56	56	56	57	62	55	53°	25					
4 "	·770	56	56	56	56	62	55		25					
5 "	·770	56	56·5	56	56	62	54		25		N^{d}.	2		F.
6 "	·770	56	56	56	56·5	62	54		26	60° 60°				
7 "	·783	56·5	56	56	56	62·5	54		27					
8 "				56	56	63	54				Var.	1		d. f.
9 "	·800	56	56	58	58	62	54	56°						
10 "	·800	58		58	58	61·5	56		37					
11 "	·800	58		57·5	57	61·5	56		40				Nimbus.	
12 "	·810	59			59	62	56		35					
1 P. M.	·800	60	65	60	60	62	56		61	60° 59°				
2 "	·796	61	66	61	61	62	56		37					c.
3 "	·776	61	64·5	59	59	62	56	60°	25	Rain·35in.				
4 "	·774	61	61	60	61	62	56		25					
5 "	·778	60	59·5	60	60	62	56				S. E^{d}.	3		c.
6 "	·770	59	56	56	56	62	54							
7 "	·782	58·5	58	58·5	59	62	54						Cir. stra.	
8 "	·782	59	58	58·5	58·5	62	54							
9 "	·784	59	56	56	58	62	55	56°				4		b. c.
10 "	·784	59	56	56	56	62	55			60° 52°		3		
11 "	·784	59	56	56·5	56	62	54							
12 "	·784	59	57	57	56	62	54			61° 56°				
Mean.	29·782	58·21	58·05	57·38	57·62	62·02	54·83	56·25						

OBSERVATORY.

VALPARAISO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	No Wool.	Shade.	Hole.	Water.	Mast-head.			Direc.	Force.		
May 29.														
1 A. M.	29·760	56°	55°	53·5°	54°	62°	54°				Var.	1	Cir. cum.	c.
2 "	·760	56	55	53·5	54	62	54							
3 "	·760	55	57	56	56	62	54	52°						
4 "	·760	55	57	56	56	62	50							
5 "	·740	54	54	53·5	53·5	62	54							
6 "	·730	53	52	53·5	51·5	62	53							
7 "	·710	54	51·5	52	52	62	54							
8 "	·714	54	53	53	54·5	62	55		42°	56° 52°			Stratus.	
9 "	·763		61	58	58	62	58	54°			Calm.	0		
10 "	·763		62	58	58	62	58							
11 "	·719	58	66·5	62	59	62	56							
12 "	·610	58	68·5	64·5	58	62	56		62	59° 58°				
1 P. M.	·668	58·5	68	57	57	62	56		52		N. E^{d}.	1		
2 "	·664	57·5	58	56	57	62	56		40					
3 "	·664	57·5	58	56·5	57	62	56	56°	35					
4 "	·620	57	55	55	56	62	56		30					
5 "	·620	56·5	55	55	56	62	56		25		N^{d}.			
6 "	·620	56·5	54	54	56	62	56		25					
7 "	·620	57	54	55	56·5	62	56		25					
8 "	·620	56	54	54	56	62	56		25					
9 "	·620	56	54	54	56	62	53			54° 54°	Calm.	0		
10 "							53						Cir. stra.	b. c.
11 "							54				S. E^{d}.	1		
12 "	29·614	55	51·5	52	53	62	54							
Mean.	29·690	56·2	56·68	55·5	55·72	62	54·91	54						
May 30.														
1 A. M.	29·600	54°	50·5°	51°	52°	61°	55°				S. E^{d}.	2	Cir. stra.	b. c.
2 "	·594	53	52	52	53	61	55							
3 "	·594	54	52·5	52·5	53	61	54	52°						
4 "	·592	54	52·5	52·5	53	61	54							
5 "	·590	54	52·5	52·5	53	61	55				Calm.	0		
6 "	·590	54	52·5	52·5	53	61	55				N. E^{d}.	2		
7 "	·600	53	53	53	53	62	55							
8 "	·600	54	53·5	53	53·5	62	55							
9 "	·608	54·5	54	54	54	62	55	53°	31°		Var.	1		f.
10 "	·622	54	54	54	54	62	56		29					
11 "	·672	55	54	53·5	54	62	56		29					
12 "	·672	55	56	55·5	56	62	56		34		Calm.	0	Nimbus.	c.
1 P. M.	·672	54	54·5	54	54	62	56		34					
2 "	·672	54	54·5	54	54	62	56		34		N^{d}.	3		d.
3 "	·672	54	54·5	54	54	62	56		34					
4 "	·673	54	54	54	54	62	56		25·5			4		
5 "	·668	55	53·5	53·5	54	62	55		25					
6 "	·680	55	53·5	53·5	54	62	55		24					
7 "	·660	55	53·5	54	54	61	55		23					
8 "	·660	55	54	54	54	61	55		23			6	Stratus.	c.
9 "	·660	55	54	54	54	61	55	59°	24	63° 58°		7	Cum. st.	
10 "	·676	55	53	55	54	61	55		25			5		
11 "	·690	55	53	55	56	61	54		25			8		
12 "	·690	55	53	56	56	61	54		25			3		
Mean.	29·639	54·33	53·66	53·62	53·87	61·5	55·12	54·66						

OBSERVATORY.

VALPARAISO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	No Wool.	Shade.	Hole.	Water.	Mast-head.			Direc.	Force.		
May 31.														
1 A. M.	29·690	55°	53°	53·5°	54°	61°	53°				Nd.	5	Cum. st.	b. c.
2 "	·690	55	53	54	54	61	53							
3 "	·691	55	53	54	54	61	53	52°						f.
4 "	·720	55	53	54	54·5	61	53					4		
5 "	·700	55	54	54·5	54·5	61·5	55							c. m.
6 "	·710	55	54	54	54	61·5	55							c. m. d.
7 "	·720	55	54	54	54	61	55					5		c. m.
8 "	·740	55	54·5	55·5	55	62	55		25°					
9 "	·740	56	54	55	55	62	55	54°	25					
10 "	·750	56	55	56	56	61	55		27					
11 "	·766	57	56	56	56	62	55		35					
12 "	·750	58	58	59	59	62	55		43		Nd.	4		
1 P. M.	·726	59	57	58	60	62	56		33				Stratus.	
2 "	·672	58·5	56	58	59	62	56		36					
3 "	·672	59	56	58	60	62	56	57°	36			3		
4 "	·672	58·5	56	58·5	58·5	62	56		26·5					
5 "	·678	58	55	57	57	62	55		23			4		
6 "	·678	57	55	55	56	62	55		23					
7 "	·678	57	55	55	56	62	55		23				Cir. stra.	
8 "	·678	57	55	55	56	62	55		23					c. d.
9 "	·678	57	55	55	56	62	55	56°			N. Ed.	3		
10 "	·700	57	54·5	54·5	55	62	56							
11 "	·700	57	54·5	54	55	62	56							
12 "	·670	57	54·5	54	55	62	56							F.
Mean.	29·702	56·54	54·79	55·37	55·95	61·7	54·95	54·75						

DAILY MEANS.

1839.	Barom.	THERMOMETERS.						
		Att.	Black Wool.	No Wool.	Shade.	Hole.	Water.	Mast-head.
May 19.	29·865	52·75°	67·87°	58°	57·16°		53·16°	48°
" 20.	29·865	52·25	52·78	52·27			52·37	51
" 21.	29·822	54	56·52	54·9	50·82		53·66	55
" 22.	29·724	52·5	55	53·6	52·44	61·18°	52·45	50·33
" 23.	29·726	53·3	50·69	49·66	53·25	62·16	53·08	51
" 24.	29·757	52·86	51·8	52·33	52·25	61·75	53·08	52
" 25.	29·766	58	58·05	56·61	56	62	53·33	55·66
" 26.	29·671	56·68	57·25	56·54	56	62·25	53·25	54·5
" 27.	29·712	56·09	54·55	54·68	55·09	62·08	53·62	53·5
" 28.	29·782	58·21	58·05	57·38	57·62	62·02	54·83	56·25
" 29.	29·690	56·2	56·68	55·5	55·72	62	54·91	54
" 30.	29·639	54·33	53·66	53·62	53·87	61·5	55·12	54·66
" 31.	29·702	56·54	54·79	55·37	55·95	61·7	54·95	54·75
Mean.	29·748	54·9	55·97	54·64	54·68	61·86	53·68	53·13

OBSERVATORY.

VALPARAISO.

RESULTS.

BAROMETER.

Mean of 13 days,	29·748
Highest mean,	29·865
Lowest mean,	29·639
Highest point,	29·883
Lowest point,	29·590

THERMOMETER, BULB COVERED WITH BLACK WOOL.

Mean of 13 days,	55·97°
Highest mean,	67·87
Lowest mean,	50·69
Highest point,	75
Lowest point,	46

THERMOMETER IN SHADE.

Mean of 12 days,	54·68°
Highest mean,	57·62
Lowest mean,	50·82
Highest point,	68
Lowest point,	46

TEMPERATURE OF WATER.

Mean of 13 days,	53·68°
Highest mean,	54·95
Lowest mean,	52·37
Highest point,	58
Lowest point,	50

THERMOMETER ATTACHED.

Mean of 13 days,	54·9°
Highest mean,	58·21
Lowest mean,	52·25
Highest point,	62
Lowest point,	49

THERMOMETER WITHOUT WOOL.

Mean of 13 days,	54·64°
Highest mean,	58
Lowest mean,	49·66
Highest point,	68
Lowest point,	46

THERMOMETER IN HOLE SIX FEET BELOW SURFACE.

Mean of 10 days,	61·86°
Highest mean,	62·25
Lowest mean,	61·18
Highest point,	64
Lowest point,	61

THERMOMETER AT MAST-HEAD.

Mean of 13 days,	53·13°
Highest mean,	56·25
Lowest mean,	48
Highest point,	62
Lowest point,	45

The weather, during the time of observing on shore, was very unfavourable for the photometer, on account of the fogs which prevailed; the same cause prevented many observations with the hygrometer.

U. S. SHIP VINCENNES.

VALPARAISO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
June 1.												
1 A. M.			56°	54°				N. E^{d}.	3	Cir. stra.	c.	
2 "			56	54								
3 "			56	55	54°	29·700						
4 "			56	55								
5 "			56	55					1			
6 "			56	55								
7 "			56	55								
8 "			56	55								
9 "			56	55	54°	29·700		Var.				
10 "			57	55								
11 "			57	55								
12 "			58	55								
1 P. M.	Valparaiso.		57	55				N^{d}.	3			Shifted the ship's anchorage.
2 "			57	56					4			
3 "			57	56	56°	29·700	65° 60°					
4 "			57	56								
5 "			56	55								
6 "			56	55					5			
7 "			56	55					4			
8 "			56	55								
9 "			56	55		29·700	63° 60°					
10 "			57	56				N. E^{d}.	3	Cum. st.		
11 "			56	55								
12 "			56	55							c. m.	
Mean.			56·37	54·83	54·66	29·700						
June 2.												
1 A. M.			58°	56°				E^{d}.	2	Cum. st.	c. m.	
2 "			58	56								
3 "			56	56	54°	29·750	63° 63°					
4 "			55	56				Calm.	0			
5 "			55	56								
6 "			55	56				W^{d}.	1			
7 "			56	56							c.	
8 "			55	56								
9 "			55	56	55°	29·700	61° 38°		3			
10 "			55	56				N. W^{d}.	4			Bringing instruments on board.
11 "			57	56								
12 "			59	56								
1 P. M.	Valparaiso.		59	56								
2 "			59	56				N^{d}.	5			
3 "			58	56	54°	29·700	62° 58°			Nimbus		
4 "			56	56								
5 "			57	56								
6 "			58	56								
7 "			56	55					4		c. m.	
8 "			56	55								
9 "			56	55	54°	29·800	61° 61°					
10 "			56	55							d.	
11 "			57	56								
12 "			57	56								
Mean.			56·62	55·83	54·25	29·737						

U. S. SHIP VINCENNES.

VALPARAISO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
June 3.												
1 A. M.			56°	56°				N^{d}.	4	Over-	f.	
2 "			56	56						cast.		
3 "			56	56	56°	29·800	61° 61°		3			
4 "			57	56								
5 "			55	56				Var.	1		F.	
6 "			56	55								
7 "			57	56								
8 "			58	56						Cum. st.	c.	
9 "			64	56		29·800	61° 58°					
10 "			65	57								
11 "			65	57								
12 "			65	57								
1 P. M.			65	57				N^{d}.	2	Clear.	b.	
2 "			65	57								
3 "	Valparaiso.		65	58	60°	29·750	64° 50°					
4 "			65	55								
5 "			64	56								
6 "			64	56								
7 "			60	56								
8 "			58	56							c. m.	
9 "			56	56	56°	29·750	62° 62°	Var.	1			
10 "			56	56								
11 "			56	56				Calm.	0		f.	
12 "			56	56								
Mean.			60°	56·2	57·33	29·775						
June 4.												
1 A. M.			56°	55°				Calm.	0		f.	
2 "			56	55								
3 "			55	54	53°	29·780	61° 61°					
4 "			56	55								
5 "			56	55								
6 "			56	55								
7 "			56	56							c. m.	
8 "			57	56								
9 "			58	57	56°	29·750	62° 62°	N^{d}.	1			
10 "			58	57						Cir. stra.	c.	
11 "			58	57								
12 "			58	57								
1 P. M.			58	57				Var.				
2 "			58	57								
3 "	Valparaiso.		58	57	53°	29·650	65° 63°					
4 "			58	57				S.W^{d}.	2			
5 "			58	57				Var.	1		c. m.	
6 "			58	57				S^{d}.	2			Got under way.
7 "			57	56							f.	
8 "			56	55								Anchored again.
9 "			56	55	54°	29·880	63° 63°	Var.	1		F.	
10 "			56	55				Calm.	0			
11 "			56	55								
12 "			56	55				N^{d}.	2			
Mean.			56·87	55·91	54	29·765						

U. S. SHIP VINCENNES.

VALPARAISO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
June 5.												
1 A. M.			56°	55°				N. E^{d}.	4	Stratus.	c.	
2 "			56	55								Heavy swell setting into the Bay.
3 "			56	55	58°	29·850	61° 61°					
4 "			56	55								
5 "			56	56								
6 "			56	56								
7 "			57	56								
8 "			57	56								
9 "			58	57	56°	29·850	63° 63°		5			
10 "			59	57								
11 "			59	57					4			
12 "			59	57				N^{d}.		Cir. st.	b. c.	
1 P. M.			60	57								
2 "			60	57						Clear.	b. m.	
3 "	Valparaiso.		60	57	59°	29·700	60° 50°					Sea subsiding.
4 "			59	57								
5 "			58	58								
6 "			58	58						Nimbus	c. m.	
7 "			57	56								
8 "			57	56					3			
9 "			56	56	55°	29·452	65° 65°				c. f.	
10 "			56	56					2			
11 "			56	56								
12 "			56	56								
Mean.			57·45	56·33	57	29·713						
June 6.												
1 A. M.			62°	57°				N. E^{d}.	1	Nimbus	c. m.	
2 "			61	56								
3 "			58	56	57°	29·350					d.	
4 "			58	56								
5 "			58	56				Calm.	0	Cir. stra.	b. c.	
6 "			58	56								
7 "			57	57						Clear.	b.	
8 "			57	57								
9 "			58	57	55°	29·350						
10 "			60	57								
11 "			61	57				S.W^{d}.	3			Got under way and stood out of the Bay.
12 "			62	57						Cum. st.	c.	
1 P. M.			61	57								Steering to the north-westward.
2 "			58	56								
3 "	Valparaiso.		58	56	55°	29·300	56° 50°					Long swell from S.W.
4 "			58	56					2			
5 "			56	56								
6 "			56	56				Calm.	0			
7 "			57	57							c. m.	
8 "			57	57								
9 "			57	57	54°	29·250	55° 50°					
10 "			57	57								
11 "			57	57				Var.	1			
12 "			58	57								
Mean.			58·33	56·58	55·25	29·312						

U. S. SHIP VINCENNES.

FROM VALPARAISO TO CALLAO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
June 7.												
1 A. M.			56°	58°				N.N.W.	2		f.	Steering to the westward.
2 "			56	58								
3 "			57	58	54°	29·150		North.				
4 "			57	58					3			
5 "			57	57				N.N.E.				
6 "			57	57						Nimbus	d.	
7 "			57	58				N. by W.	4			
8 "			57	57								The squadron in company.
9 "			57	58	54°	29·200	62° 58°					
10 "			56	58				N.N.W.	5		r.	
11 "			56	59								
12 "	32° 32′	72° 48′	57	59								
1 P. M.									7		c.	
2 "												
3 "					56°	29·250	60° 58°			Cum. st.		
4 "									9			
5 "											r.	
6 "									7			
7 "			56	59				NWbyN			c.	
8 "			58	59								
9 "			60	59	56°	29·300			5	Clear.	b. l.	
10 "			60	59								Heavy swell from the westward.
11 "			60	59					4			
12 "			60	59								
Mean.			57·43	58·27	55°	29·225						
June 8.												
1 A. M.			60°	59°				NWbyN	4	Clear.	b. w. l.	Steering to the southward and westward.
2 "			60	59								Heavy swell from the westward.
3 "			59	58	56°	29·300	60° 57°					
4 "			58	57					3			
5 "			60	59						Cir. stra.	b. c.	
6 "			60	58					4			
7 "			60	61								
8 "			60	63				N. W.				
9 "			60	63	56°	29·300	56° 54°				c. q.	
10 "			61	63								
11 "			61	63								Swell from the northward and westward.
12 "	32° 41′	73° 43′	61	62								
1 P. M.			61	60							c.	
2 "			61	60				NWbyW				
3 "			62	60	60°	29·300	60° 56°					
4 "			61	60								
5 "			62	60						Cum. st.		
6 "			61	60				W. by N.				
7 "			59	59							c. l.	
8 "			59	59								
9 "			60	60	59°	29·400					p.	
10 "			60	60							c. l.	
11 "			60	60								
12 "			60	60								
Mean.			60·25	60·12	57·75	29·325						

U. S. SHIP VINCENNES.

FROM VALPARAISO TO CALLAO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
June 9.												
1 A. M.			60°	61°				W. N.W.	3	Cum. st.	c.	Steering to the northward.
2 "			60	61								
3 "			60	61	58°	29·400						
4 "			59	61				W^{d}.			r.	
5 "			58	61								
6 "			58	60				W. by S.	1		c.	
7 "			60	60						Clear.	b.	
8 "			61	60								
9 "			62	60	61°	29·450		Var.				
10 "			62	60				Calm.	0			Squadron in company.
11 "			63	61								
12 "	32° 35′	74° 29′	64	61				N.W.	1			
1 P. M.			64	61								
2 "			63	61								
3 "			63	61	62°	29·450						
4 "			62	61				N. W^{d}.				
5 "			60	61								
6 "			59	61								
7 "			59	60				Calm.	0	Cirrus.		
8 "			59	59				N.W^{d}.	1			
9 "			58	60	56°	29·500				Clear.	b. w.	
10 "			58	60								
11 "			58	60								
12 "			58	61								
Mean.			60·33	60·54	59·25	29·450						
June 10.												
1 A. M.			57°	60°				N.W^{d}.	1	Clear.	b. w.	Steering to the northward.
2 "			57	60								
3 "			57	60	56°	29·450		W^{d}.				
4 "			57	60								
5 "			58	60							b.	
6 "			58	60								
7 "			58	60								
8 "			62	60				Calm.	0			
9 "			62	61	62°	29·500		N^{d}.	1			
10 "			62	61				W. N. W.				
11 "			63	61								
12 "	32° 11′	74° 21′	63	61								
1 P. M.			62	61								
2 "			62	61								
3 "			62	61	60°	29·450						
4 "			63	61				S. W^{d}.	2			Course N. W. by N.
5 "			61	61						Cir. stra.	b. c.	
6 "			61	60					3			
7 "			61	60·5								
8 "			60	60						Clear.	b. w.	
9 "			60	60	58°	29·450						
10 "			60	60								
11 "			60	60								
12 "			60	60					2			
Mean.			60·25	60·37	59	29·462						

U. S. SHIP VINCENNES.

FROM VALPARAISO TO CALLAO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
June 11.												
1 A. M.			60°	61°				S. W^{d}.	2	Clear.	b. w.	Course N. W. by N.
2 "			60	61								
3 "			61	61	58°	29·450			4			
4 "			61	61						Cirrus.		
5 "			61	61								
6 "			61	61								
7 "			61	61								
8 "			62	61				W. by S.	2	Cir. stra.	b. c.	
9 "			62	61	62°	29·450		N. N. W.				
10 "			62	61								
11 "			63	61					3			
12 "	30° 56′	74° 41′	63	61								
1 P. M.			63	61·5					4			
2 "			63	61·5						Cum. st.	c.	Steering to the northward.
3 "			63	61·5	62°	29·450						
4 "			62	62				West.				
5 "			62	62					5			
6 "			62	62								
7 "			62	62								
8 "			62	62						Nimbus		
9 "			62	62	59°	29·420	63° 62°					
10 "			62	62				W. by N.	4			
11 "			62	62								
12 "			61	62								
Mean.			61·79	61·47	60·25	29·442						
June 12.												
1 A. M.			62°	62°				W. N. W.	4	Nimbus	c. p.	Steering to the northward.
2 "			62	62								
3 "			61	62	58°	29·400						
4 "			61	61				W. by S.				
5 "			62	64						Cum. st.	c.	
6 "			61	63				S. W^{d}.				Course N. W. by N.
7 "			62	63								
8 "			64	63						Cirrus.		
9 "			64	64	61°	29·400						
10 "			64	64								
11 "			64	65				S^{d}.		Clear.	b.	
12 "	28° 34′	74° 40′	65	66								
1 P. M.			63	65								
2 "			62	65								
3 "			62	65	62°	29·400						
4 "			62	65								
5 "			62	64								
6 "			61	64								
7 "			61	64					6			
8 "			61	64								
9 "			61	64	61°	29·450						
10 "			61	64				S. E^{d}.		Cum.	c.	
11 "			61	64								
12 "			61	64					5			Observed a brilliant meteor falling to the S. E.
Mean.			62·08	63·75	60·5	29·412						

U. S. SHIP VINCENNES.

FROM VALPARAISO TO CALLAO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
June 13.												
1 A. M.			61°	63°				S. E^{d}.	5	Cir. st.	b. c.	Course N. W.
2 "			60	62								
3 "			60	62	60°	29·450						
4 "			60	62								
5 "			61	65						Clear.	b.	
6 "			62	65								
7 "			62	65								
8 "			62	65								
9 "			62	65	60°	29·400						
10 "			64	65								
11 "			64	65								
12 "	25° 46′	76° 32′	64	65					4			
1 P. M.			64	65								Course N. by W.
2 "			64	65						Cirrus.	b. c.	
3 "			64	66	61°	29·400			5			
4 "			64	66								
5 "			64	66						Cum.		
6 "			62	66								
7 "			62	66						Clear.	b.	
8 "			62	66								
9 "			63	65	60°	29·400						
10 "			63	65						Cum.	c.	
11 "			63	65								
12 "			63	65								
Mean.			62·5	64·79	60·25	29·412						
June 14.												
1 A. M.			63°	65°				S. E^{d}.	5	Cum.	c.	Course N. by W.
2 "			63	65								
3 "			63	65	61°	29·400						
4 "			63	65								
5 "			63	65					4	Clear.	b.	
6 "			63	65								
7 "			62	65								
8 "			64	66								
9 "			65	66	65°	29·400						
10 "			65	66								
11 "			65	66								
12 "	22° 29′	76° 38′	65	66								
1 P. M.			65	66					3			
2 "			65	66								
3 "			65	66	62°	29·350						
4 "			64	66					4			
5 "			64	67						Cir.cum	b. c.	
6 "			62	67								
7 "			65	66				E^{d}.				
8 "			65	67					3	Cum.	c.	
9 "			63	66	62°	29·350						
10 "			62	66								
11 "			62	66					2			
12 "			62	66								
Mean.			63·66	65·83	62·5	29·375						

U. S. SHIP VINCENNES.

FROM VALPARAISO TO CALLAO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
June 15.												
1 A. M.			63°	66°				E^{d}.	2	Cum.	c.	Course N. by W.
2 "			62	66								
3 "			62	66	59°	29·300						
4 "			62	66								
5 "			63	66								
6 "			62	66								
7 "			62	66								
8 "			62	66					3			
9 "			63	66	63°	29·300						
10 "			64	66								
11 "			64	66								
12 "	20° 38′	76° 33′	64	65								
1 P. M.			65	65				S. E^{d}.	2	Cir.cum	b. c.	
2 "			65	65								
3 "			64	65	62°	29·300						
4 "			63	65					3			
5 "			62	65								
6 "			62	65								
7 "			62	65								
8 "			61	65						Cum.	c.	
9 "			61	65	60°	29·350						
10 "			62	65								
11 "			62	65								
12 "			61	65								
Mean.			62·62	65·45	61	29·312						
June 16.												
1 A. M.			62°	65°				S. E^{d}.	2	Cum.	c.	Course N. by W.
2 "			61	65								
3 "			60	65	58°	29·300						
4 "			60	65					1		b. c.	Clear overhead.
5 "			60	65								
6 "			60	66				E. N. E.				
7 "			62	66								
8 "			63	66								
9 "			64	67	60°	29·350		Var.				
10 "			62	67						Cum.	c.	
11 "			64	67								
12 "	19° 15′	76° 47′	65	67								
1 P. M.			68	67								
2 "			68	67							b. c.	
3 "			64	67	62°	29·300						
4 "			65	67				S. E^{d}.	2	Cir.cum		
5 "			63	67								
6 "			63	67								
7 "			62	67				Var.	1			
8 "			61	67							b. w.	
9 "			62	67	58°	29·350		E^{d}.	2		c. m.	
10 "			62	67								
11 "			62	67								
12 "			62	67					3			
Mean.			62·7	66·45	59·5	29·337						

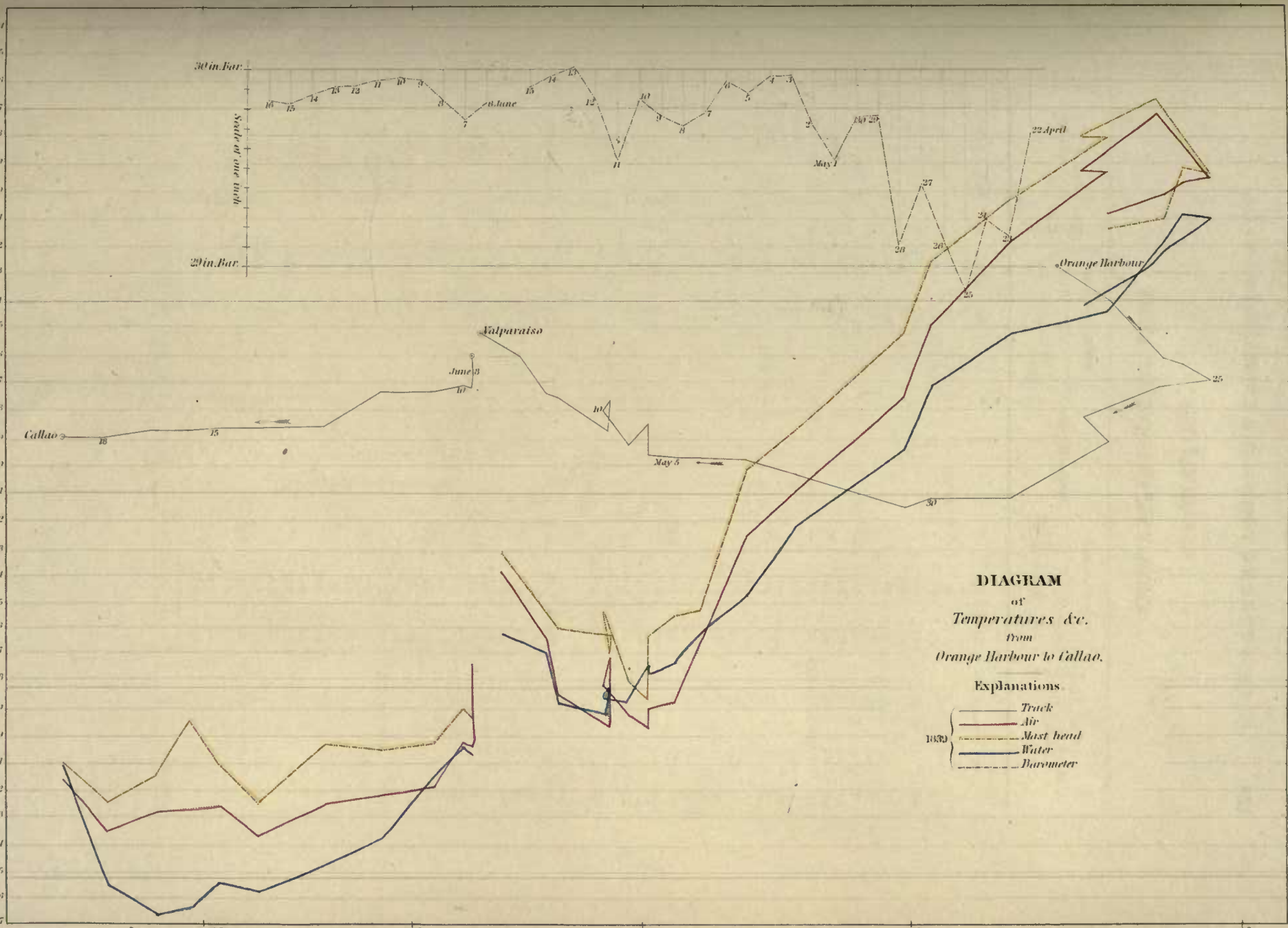
U. S. SHIP VINCENNES.

FROM VALPARAISO TO CALLAO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
June 17.												
1 A. M.			61°	66°				E^{d}.	3	Cum.	m.	Course N. by W.
2 "			61	67				S. S. E.				
3 "			61	67	60°	29·300						
4 "			61	67				E. S. E.				
5 "			61	67							c.	
6 "			61	67								
7 "			62	67								
8 "			63	67								
9 "			64	66	62°				4			
10 "			64	66								
11 "			64	66				E^{d}.				
12 "	17° 34′	76° 42′	65	66								
1 P. M.			65	66								
2 "			64	66								
3 "			64	67	63°			E. S. E.				
4 "			64	66								
5 "			63	68						Cir.cum	b. c.	
6 "			63	68								
7 "			63	67				S. E^{d}.				
8 "			63	67								
9 "			63	66	61°							
10 "			62	66						Cum.	c.	
11 "			62	67								
12 "			63	67								
Mean.			62·79	66·66	61·5							
June 18.												
1 A. M.			63°	67°				S. E^{d}.	4	Cum.	c.	Course N. by W.
2 "			63	67								
3 "			63	67	62°							
4 "			63	67								
5 "			62	66								
6 "			62	64								
7 "			63	65								
8 "			64	66								
9 "			64	67	64°							
10 "			65	67						Cir.cum	b. c.	Water much discoloured.
11 "			66	67								
12 "	14° 59′	77° 02′	67	67								Course N. ¼ W.
1 P. M.			66	67								
2 "			63	67								
3 "			63	67	63°							
4 "			62	66				E. S. E.	3			High land in sight to the N. N. E.
5 "			63	64								
6 "			63	65						Clear.	b.	
7 "			63	65								
8 "			63	65					4			
9 "			63	64	61°					Cir.cum	b. c.	
10 "			63	64							b. c. w.	
11 "			63	63								
12 "			63	63								
Mean.			63·45	65·54	62·5							

Taken down.

No observations recorded.


30 in. Bar.
29 in. Bar.
Scale of one inch
8 June
May 1
May 25
22 April
Orange Harbour
Valparaiso
June 8
Callao
May 5
80° Lon. W. of Greenwich
20 S. Lat.
30°
40°
50°
60°
60°
70°
90°
100°
DIAGRAM
of
Temperatures &c.
from
Orange Harbour to Callao.
Explanations
1839
Track
Air
Mast head
Water
Barometer

U. S. SHIP VINCENNES.

FROM VALPARAISO TO CALLAO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
June 19.												
1 A. M.			60°	60°				S. E^{d}.	4	Clear.	b. w.	Course N. ¼ W.
2 "			60	60								
3 "			60	60	58°							Saw several meteors.
4 "			60	60								
5 "			61	60								Passed an English barque.
6 "			61	60					3			
7 "			61	62						Cum.	b. c.	Sounded with 50 fathoms; temp. water at that depth, 56·5°.
8 "			62	62				E^{d}.				
9 "			62	61	63°							
10 "			63	61								
11 "			63	61								Land in sight to the N. E.
12 "	12° 50′	77° 02′	64	62								
1 P. M.			64	62								
2 "			65	62				N. E^{d}.		Cir.cum		
3 "			63	62	65°							
4 "			63	62								
5 "			62	63								Sounded with 50 fathoms, no bottom; temp. water at that depth, 56·5°.
6 "			62	63								
7 "			61	61					2			
8 "			61	61								
9 "			60	60	58°			Calm.	0			Sounded with 85 fathoms, black mud; temp. of water at that depth, 57°.
10 "			60	60							b. w.	
11 "			60	60						Cum.	b. c. w.	
12 "			60	60				N. E^{d}.	1			
Mean.			61·58	61·04	61							
June 20.												
1 A. M.			60°	60°				Calm.	0	Cum.	b. c. w.	
2 "			60	60								
3 "			60	60	59°	30·080						
4 "			60	60								
5 "			60	60								Island of San Lorenzo in sight.
6 "			60	61				N. W^{d}.	1		c.	
7 "			61	61								Beating up for the anchorage.
8 "			61	60								
9 "			61	60	58°	30·080						
10 "			61	60				Calm.				
11 "			62	60								
12 "			64	60						Cir.cum	b. c.	
1 P. M.			65	60				S^{d}.	1			
2 "			64	61								
3 "			64	61	63°	30·010						
4 "			64	61					3			
5 "			64	61								
6 "			63	60								
7 "			62	60								
8 "			62	60								Anchored near Island of San Lorenzo, in 7½ fathoms water.
9 "			62	60	60°					Stratus.	c.	
10 "			61	59								
11 "			61	59					1			
12 "			61	59								
Mean.			61·79	60	60·12	30·056						

Standing in for Callao.

No observations recorded.

OBSERVATORY.

SAN LORENZO.

INSTRUMENTS USED ON SHORE.

Standard barometer.

Thermometer attached.

Thermometer, the bulb covered with black wool, hanging one and a half feet from a sandy soil, with a north-and-south exposure.

Thermometer, the bulb uncovered, in the same situation.

Thermometer in the shade.

Thermometer in a hole two and a half feet below the surface.

Photometer. This instrument was exposed day and night; at sunrise and sunset it stood at from 20° to 25°.

The temperature of water and at mast-head were observed on board the U. S. Ship Vincennes.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	No Wool.	Shade.	Hole.	Water.	Mast-head.			Direc.	Force.		
June 21.														
1 A. M.							60°				S^{d}.	3		b. m.
2 "							59							
3 "							58	58°						
4 "							58							
5 "							59				S. E^{d}.	1	Cir. cum.	c.
6 "							59							
7 "							60							
8 "							60							
9 "							60	64°						
10 "							60				S. E.	2	Cumulus	
11 "							60							
12 "			77°	67°	67°		60		92°					
1 P. M.			70	67	67		60		70					
2 "			78	70	70		60		70	69° 62°				
3 "			83	72	71		60	66°	67		S^{d}.	4	Clear.	b.
4 "			78	67	75		60		96	75° 70°				
5 "			70	70	71		60		40					
6 "			63	61	69		60		20					
7 "	30·060	67°	60	61	66		60		20					
8 "	·060	62	60	60	64		60		20					
9 "	·060	63	59	59	64		58		20	61° 60°		2		b. w.
10 "	·060	63	60	60	64		58							
11 "	·060	63	60	60	60		60							w. m.
12 "	·060	63	60	60	61		60							
Mean.	30·060	63·73	67·53	64·07	66·76		59·54	62·66						

OBSERVATORY.

SAN LORENZO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	No Wool.	Shade.	Hole.	Water.	Mast-head.			Direc.	Force.		
June 22.														
1 A. M.	30·060	63°	61°	61°	64°		60°				S. S. E.	2	Overcast.	m.
2 "	·052	64	61	60	65		60							
3 "	·070	64	59	59	65		60	61°			Sd.	1		
4 "	·072	64	58	58	64		61							
5 "	·070	62	60	60	62		60		25°					
6 "	·050	63	60	60	64		60		30					
7 "	·052	63	60	60	64		60		31					
8 "	·052	63	62	61	64		60		40					
9 "	·052	63	62	60	64		60		50		Ed.	2		
10 "	·050	64	64	60	65		60		54					
11 "	·050	65	69	63	68		60		60					
12 "	·080	66	71	66	71		60	63°	68	Misty.			Cumulus	c. m.
1 P. M.	·080	69	72	66	73		60		64					
2 "	·080	70	67	64	73		60		55					
3 "	·080	68	66	63	68		60		27					
4 "	·080	66	63	63	65		60	62°	26					
5 "	·080	65	62	61	68		60		20					
6 "	·080	64	61	61	64		60		20					
7 "	·080	64	61	61	63		60							
8 "	·080	66	61	62	64		60							
9 "	·090	66	61	61	64		60						Clear.	m.
10 "	·090	64	61	61	63		60				Var.	2	Cir. cum.	c. m.
11 "	·100	64	61	61	65		60							
12 "	·100	63	61	61	64		60							
Mean.	30·072	64·71	62·91	61·37	65·51		60·04	62						
June 23.														
1 A. M.	30·100	62°	60°	60°	64°		60°				Calm.	0	Cir. cum.	b. c. m.
2 "	·100	62·5	61·5	61	64		60							
3 "	·100	62·5	61·5	61	64		60	68°						
4 "							60							
5 "							60							
6 "	30·100	62	59	59	63		59		20°					
7 "	·100	62	60	60	64		59		24				Overcast.	m.
8 "	·100	63	62	61	64		59		28					
9 "	·100	63·5	64	62	65		60		41					
10 "	·100	64	64	60	67		60		47		Sd.	1		d.
11 "	·100	65	65	66	68		60		48					
12 "	·100	66	67	62	69		60	63°	61			2		
1 P. M.	·092	68	75	65	74		61		70					
2 "	·076	68	80	68	74		60		68	Misty.	S. Ed.	3		c. m.
3 "			79	69	73		60	66°	58					
4 "			75	65			60							
5 "			65	64			60							
6 "	30·050	64	61	61	63		60		20					
7 "	·050	63	60	60	63		60		20			1		
8 "	·050	60	58	58	61		60							
9 "	·050	61	56	56	60		60							m.
10 "	·050	61	58	58	60		60				Calm.	0		
11 "	·050	61	59	59	61		60							
12 "	·050	61	59	59	61		60							
Mean.	30·078	63·13	63·55	61·25	65·1		59·91	65·66						

OBSERVATORY.

SAN LORENZO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather
		Att.	Black Wool.	No Wool.	Shade.	Hole.	Water.	Mast-head.			Direc.	Force.		
June 24.														
1 A. M.	30·040	61°	59°	59°	61°		60°				Calm.	0	Cir. stra.	c. m.
2 "	·040	61	59	59	61		60							
3 "	·030	63	59	59	62		60	59°						
4 "	·030	63	59	59	62		60				Var.	1		
5 "	·030	62	60	60	63		60							
6 "	·030	62	60	60	63		60		23°					
7 "	·000	63	59	59	64		60		25					c. m.
8 "	·031	62	60	60	63		60		38					
9 "	·031	64	65·5	62·5	65		60		54		S. Ed.	2		
10 "	·050	66	65	63	70		61		63					
11 "	·074	66	66	63	77		61		63					
12 "	·060	67	67	63	70		61	58°	65					
1 P. M.	·050	67	69	64	71		61		67					
2 "	·010	71	76	67	79		61		72					
3 "	·000	73	81	69	75		61		91					
4 "	·000	71	74	67	72		61	65°	46		Sd.			
5 "	·000	68	72	67	70		60		65					
6 "	·008	62	60	59	64		60		23			1		
7 "	·008	62	60	59	64		60		20		Calm.	0		
8 "	·008	63	60	59	64		60		20					
9 "	·008	62·5	60	59	61·5		59				Sd.	1		m.
10 "	·031	62·5	60	59	61·5		59							
11 "	·031	61	59	59·5	61		60					2		
12 "	·036	61	59·5	59·5	61		60					1		
Mean.	30·026	64·33	63·7	61·44	66·04		60·21	60·66						
June 25.														
1 A. M.	30·036	61°	58°	57°	68°		60°				Nd.	1	Clear.	b. w.
2 "	·026	61	58	57	63		60							
3 "	·026	60	57	56	61		60	56°						
4 "	·026	60	57	56	61		60				Calm.	0		f.
5 "	·026	61	57	56	63		60							
6 "	·026	61	59	57	62		60		20°					
7 "	·040	61	59	59	62		60		26		Nd.	2	Cumulus	c. m.
8 "	·070	61	61	60	63		60		37					
9 "	·090	62·5	64	62	63·5		60	58°	50					
10 "	·180	63	63·5	61	64		60		48					
11 "	·100	65	66	62	68		60		57		Calm.	0		
12 "	·100	67	72·5	66	71		60		67					
1 P. M.	·100	68	75	67	75		60		70		S.Wd.	3		
2 "	·110	71	78	68	74		60		64					
3 "	·080	70	71	66	71		60	65°	56					
4 "	·072	69·5	69	66	69		61		49					
5 "	·072	66	65	63	67		61		30		Sd.	2		
6 "	·072	65	62	61	64		61		22					
7 "	·080	61	57	57	63		60							m.
8 "	·080	61	57	57	63		60							
9 "	·072	61	57	57	63		60	56°			Var.	1	Clear.	b. w.
10 "	·072	59	56	56	60		60							
11 "	·072	57	56	56	58		60							
12 "	·072	57	56	56	58		60							
Mean.	30·070	62·87	62·12	59·95	64·58		60·12	58·75						

Damp and hazy.

Damp and hazy.

OBSERVATORY.

SAN LORENZO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	No Wool.	Shade.	Hole.	Water.	Mast-head.			Direc.	Force.		
June 26.														
1 A. M.	30·086	57°	56°	57°	57°		60°				S. E^{d}.	1	Clear.	b. w.
2 "	·086	57	57	57	57·5		60							
3 "	·086	57	57	57	57·5		59	56°						
4 "	·086	59	59	59·5	61		59							
5 "	·088	61	58	58	61		59				S. S. E.	3		
6 "	·092	61	57	59	62		59		24°					
7 "	·074	60	58	58	62		60		28				Cirrus.	c. m.
8 "	·074	63	68	64	68		60		40					
9 "	·073	64	70	65·5	68		60	61°	74					
10 "	·116	70	79	69	76		60		84			2		
11 "	·116	73	79	70	78		61		76					
12 "	·112	75	86	72	80		61		75					
1 P. M.	·100	77	84	74	84		61		98		S^{d}.	4		
2 "	·100	74	83	72	78		61		100					
3 "	·053	71·5	76·5	76·5	76·5		61	62°	79		S. S. W.			
4 "	·053	69·5	76	69	75·5		61		48				Clear.	b. m.
5 "	·052	66	64	62			60		27					
6 "	·052	66	59	59			61		20		S^{d}.			
7 "	·052	64	59	59			60							
8 "	·066	61	58	58			60							
9 "	·070	61	58	58			60							
10 "	·070	61	58	58			60					5		b.m.w.
11 "	·060	61	58	58			60							
12 "	·054	60	58	58			60					3		
Mean.	30·077	64·54	66·41	63·7	71		60·12	59·66						
June 27.														
1 A. M.	30·068	58°	57°	57°			60°				S^{d}.	1	Clear.	b. w.
2 "	·068	58	57	57		72°	60							
3 "	·051	59	57	57		70	60	57°			Calm.	0		
4 "	·044	59	57·5	57·5		69	60						Cum. in horizon.	b. c.
5 "	·031	59	57	57		69·5	59							
6 "	·031	60	57	57		69	59		29°					
7 "	·050	62	71	61		68	60		71					
8 "	·050	67	84	66		70	60		80					
9 "	·113	72·5	93	69·5		71·5	60	64°	69				Clear.	b.
10 "	·086	77	94	73		71	60		82	75° 68°	S^{d}.	2		
11 "	·104	79	97	76		73	61		91					
12 "	·114	82	93	77		74	62		bulb					
1 P. M.	·100	81	89	76		74	60		"					
2 "	·088	72	86	75		74	60		"					
3 "	·060	75	85	74		74·5	61	68°	100					
4 "	·030	72	83	72		74	61		82		S. W^{d}.	3		
5 "	·050	69	72	64		74	61		44	62° 58°				
6 "	·050	64	62	61		74	60		20					
7 "	·051	63	60	60		73·5	60				Var.	1		
8 "	·051	61	58·5	58·5		73·5	60			61° 60°				
9 "	·051	60·5	58	58		72	61	59°			Calm.	0		b. w.
10 "	·051	60	58	58		72	61							
11 "	·051	59·5	57	57		71·5	60				Var.	1		
12 "	·051	59	57	57		71·5	60							
Mean.	30·062	66·16	70·83	63·95		71·95	60·25	62						

OBSERVATORY.

SAN LORENZO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	No Wool.	Shade.	Hole.	Water.	Mast-head.			Direc.	Force.		
June 28.														
1 A. M.	30·050	58·5°	57°	57°		71·5°	60°				Calm.	0	Clear.	b. w.
2 "	·050	58·5	57	57·5		71·5	60							
3 "	·050	57	56	56		71·5	60	56°						
4 "	·050	57	54	54		71·5	60				S. E^{d}.	1	Cir. cum.	b. c.
5 "	·050	57	57	57		68	60							
6 "	·050	58	57	57		68	60		20°					
7 "	·073	60	61	61		71	60		35					
8 "	·073	60	61	61		71	60		40			3		
9 "	·094	63	68·5	65		71·5	60		64				Clear.	b.
10 "	·090	69·5	85	74		72	60		80	73° 70°				
11 "	·072	75	86	75		74	60		95					
12 "	·084	74·5	86	73		73	60		85					
1 P. M.	·076	74	80	71		73	61		83	73° 68°				
2 "	·038	72·5	76	70		74	61		100					
3 "	·024	71	76	68		75	62	65°	74					
4 "	·000	67·5	72	66		72	61		30			4		
5 "	·000	65	64	60		72	61		25	65° 58°				
6 "	·000	62·5	60	59·5		72	60		18					
7 "	·022	62·5	59	59		70	60							
8 "	·032	62	59	59		70·5	60							
9 "	·018	61	59	59		70	60	58°						
10 "	·022	61	59	59		69·5	60							b. w.
11 "	·022	61	59	59		69	60					5		
12 "	·022	61	59	59		69	60					4	Cirrus.	
Mean.	30·044	63·7	64·87	62·41		70·75	60·2	59·66						
June 29.														
1 A. M.	30·022	62°	60°	59°		69°	60°				S. E^{d}.	4	Cirrus.	c. w.
2 "	·022	61·5	60	59		69	60							
3 "	·022	62	59	59		69	60	58°						
4 "	·023	62	59	59		69	60			63° 58°	Var.	1		b. w.
5 "	·023	62	61	61		69·5	60				S. E^{d}.	1	Clear.	
6 "	·083	62	61	60		71	60		20°					
7 "	·076	62	61·5	61		70·5	60		29	61° 60°				
8 "	·100	63	67	63		70·5	60		37			3		
9 "	·104	67	73	67		71	62	56°	75			4		
10 "	·119	75·5	88	71		72·5	62		68	74° 68°				
11 "	·122	82	94	75		73	62		95					
12 "	·102	81	93	77		73·5	62		84	78° 66°				
1 P. M.	·088	82	91	76		74	63		75					
2 "	·074	79·5	85	75		74	63		81	78° 62°	S^{d}.	5		
3 "	·060	76	81	70		74	62	64°	79					
4 "	·060	73	76	68		73·5	62		70	70° 60°				
5 "	·082	69	67	64·5		72	61		29					
6 "	·098	69	63	63		72	61		18					
7 "	·098	64	61	61		69	60				S. W.	4		
8 "	·092	63	59	59		68	60							
9 "	·092	64	60	60		68	60	58°			S^{d}.		Cir. cum.	b. c. w.
10 "	·122	63	60	60		66	60							
11 "	·108	62	61	61		66	60							
12 "	·092	62	60·5	60·5		67	60			65° 58°				
Mean.	30·075	69·86	68·66	64·58		70·36	60·83	59						

OBSERVATORY.

SAN LORENZO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	No Wool.	Shade.	Hole.	Water.	Mast-head.			Direc.	Force.		
June 30.														
1 A. M.	30·082	63°	62°	61·5°		71°	60°				Sd.	2	Cir. cum.	c. m.
2 "	·080	63	62	61·5		71	60							
3 "	·084	63	62	61·5		70	60	58°						
4 "	·070	63	62	61·5		70	60				Calm.	0		c.
5 "	·070		62	61·5		70	60							
6 "	·070		61	61·5		69·5	60		20°					
7 "	·070		61	61		69·5	60							
8 "	·084		62	61·5		70	61				S. Ed.	1		
9 "	·124		65	63		70	61	62°						
10 "	·124		74·5	68		70	62							
11 "	·096	71	75	68		71·5	63		86	71° 68°		2		
12 "	·114	72	74	69		72	62		55					
1 P. M.	·126	71	78	69		72	61		59		Sd.	3		
2 "	·112	72	74	67		71	61		60					
3 "			79	64		71	60	63°	68	71° 68°				
4 "	30·074	68	76	64		71	60		28					
5 "	·066	66	64	62		71	60		20					
6 "	·066	63	61	61		71	60					4		
7 "	·066	63	61	61		71	60			61° 60°				
8 "	·066	63	61	61		71	60					3		
9 "	·068	63	61	61		71	60							
10 "	·070	63	61	61		70	60							
11 "	·074	63	61	61		70	60				Calm.	0		
12 "	·074	63	61	61		69	60							
Mean.	30·085	65·17	65·86	63·02		70·56	60·44	61						
July 1.														
1 A. M.	30·077	63°	60°	60°		68°	60°				Calm.	0	Cumulus	c.
2 "	·084	63	60	60		68	60							
3 "	·084	62	59	57		68	60	63°						
4 "	·084	61·5	58	56·5		68	60							F.
5 "	·084	61	58	57		66	59							
6 "	·068	60	58	57		67	59							
7 "	·050	60·5	61	60		68	60		37°	61° 60°				f.
8 "	·082	65	69	64		68	60							m.
9 "	·090	66	70	65		69	60	62°	46					
10 "	·090	67	70	65		69	60		46					
11 "	·084	63	70	68		70	60		52					c.
12 "	·084	71	76	66		71	61		74	71° 69°	Sd.	1		
1 P. M.	·094	74	76	67		71	61		78				Cirrus.	b. c.
2 "	·072	74	83	70		72	61		68	72° 62°				
3 "	·060	72	93	71		72	62	64°	100			4	Clear.	b.
4 "	·038	71	79	67		72	62		54				Cumulus	c.
5 "	·038	67	66	63		71	61		25					
6 "	·038	62	60	59		71	61		20			3		
7 "	·038	62	60	59		71	61							
8 "	·038	62	60	59		70	60							
9 "	·038	62	60	58		69	60	62°			Calm.	0		
10 "	·038	62	60	58		69	60							m.
11 "	·038	62	60	58		69	60							
12 "	·038	62	59	58		69	60							
Mean.	30·064	64·79	66·37	60·91		70·08	60·33	62·75						

OBSERVATORY.

SAN LORENZO.

1839.	Barom.	THERMOMETERS.							Photometer.	Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	No Wool.	Shade.	Hole.	Water.	Mast-head.			Direc.	Force.		
July 2.														
1 A. M.	30·038	62°	59°	58°		68°	60°				Calm.	0	Cir. stra.	c. m.
2 "	·038	62	59	58		68	60							
3 "	·040	62	58	57		68	60	60°						f.
4 "	·040	61	58	58		68	60							
5 "	·050	61	58	58		68	60							F.
6 "	·050	61	58	58		68	60		20°					
7 "	·050	62	58	58		68	60		30		N.W^{d}.	2		
8 "	·050	62·5	61	59		68	59		40					c.
9 "	·050	63	59	56		68	60	63°	42					
10 "	·050	64	60	57		69	61		58					
11 "							61							
12 "							61						Clear.	b.
1 P. M.							61				N^{d}.	3		
2 "							61							
3 "	30·040	63					61	63°						
4 "							61							
5 "							61				W^{d}.	1		
6 "							61							
7 "							60							
8 "							60							
9 "	30·070	68°					60	60°			Var.		Cir. cum.	
10 "							60							
11 "							60							
12 "							60							
Mean.	30·047	62·62	58·8	57·7		68·1	60·33	61·5						

DAILY MEANS.

1839.	Barom.	THERMOMETERS.						
		Att.	Black Wool.	No Wool.	Shade.	Hole.	Water.	Mast-head.
June 21st.	30·060	63·73°	67·53°	64·07°	66·76°		59·54°	62·66°
" 22d.	30·072	64·71	62·91	61·37	65·51		60·04	62
" 23d.	30·078	63·13	63·55	61·25	65·1		59·91	65·66
" 24th.	30·026	64·33	63·7	61·44	66·04		60·21	60·66
" 25th.	30·070	62·87	62·12	59·95	64·58		60·12	58·75
" 26th.	30·077	64·54	66·41	63·7	71		60·12	59·66
" 27th.	30·062	66·16	70·83	63·95		71·95°	60·25	62
" 28th.	30·044	63·7	64·87	62·41		70·75	60·2	59·66
" 29th.	30·075	69·86	68·66	64·58		70·36	60·83	59
" 30th.	30·085	65·17	65·86	63·02		70·56	60·44	61
July 1st.	30·064	64·79	66·37	60·91		70·08	60·33	62·75
" 2d.	30·047	62·62	58 8	57·7		68·1	60·33	61·5
Mean.	30·063	64·63	65·13	62·03	66·49	70·3	60·19	61·26

OBSERVATORY.

SAN LORENZO.

RESULTS.

BAROMETER.

Mean of 12 days,	30·063
Highest mean,	30·085
Lowest mean,	30·026
Highest point,	30·126
Lowest point,	30·000

THERMOMETER, BULB COVERED WITH BLACK WOOL.

Mean of 12 days,	65·13°
Highest mean,	70·83
Lowest mean,	58·8
Highest point,	97
Lowest point,	56

THERMOMETER IN SHADE.

Mean of 6 days,	66·49°
Highest mean,	71
Lowest mean,	64·58
Highest point,	84
Lowest point,	57

TEMPERATURE OF WATER.

Mean of 12 days,	60·19°
Highest mean,	60·83
Lowest mean,	59·54
Highest point,	63
Lowest point,	58

THERMOMETER ATTACHED.

Mean of 12 days,	64·63°
Highest mean,	69·86
Lowest mean,	62·62
Highest point,	82
Lowest point,	57

THERMOMETER UNCOVERED.

Mean of 12 days,	62·03°
Highest mean,	64·58
Lowest mean,	57·7
Highest point,	77
Lowest point,	54

THERMOMETER IN HOLE, 2½ FEET BELOW SURFACE.

Mean of 6 days,	70·3°
Highest mean,	71·95
Lowest mean,	68·1
Highest point,	75
Lowest point,	66

THERMOMETER AT MAST-HEAD.

Mean of 12 days,	61·26°
Highest mean,	65·66
Lowest mean,	58·75
Highest point,	68
Lowest point,	56

U. S. SHIP VINCENNES.

CALLAO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 3.												
1 A. M.			58°	59°				S. E^{d}.	2	Cum.	c. m.	
2 "			58	60								
3 "			58	60	61°	30·130						
4 "			58	60				S^{d}.				
5 "			59	60				S. W^{d}.				
6 "			60	60								
7 "			61	60								
8 "			61	61								
9 "			65	60	64°	30·160		Var.	1			
10 "			65	61				Calm.	0			
11 "			66	61								
12 "			66	61								
1 P. M.			67	61								
2 "	Callao.		67	61				N^{d}.	2	Clear.	b.	
3 "			66	61	64°	30·130						
4 "			66	60								
5 "			65	60					1			
6 "			64	60								
7 "			60	60				Calm.	0	Cir.cum	b. c. m.	
8 "			60	60								
9 "			60	60	61°			S. E.	1			
10 "			60	60								
11 "			59	60					2			
12 "			59	60								
Mean.			62·41	60·25	62·5	30·140						
July 4.												
1 A. M.			59°	58°				S. E^{d}.	1		m.	
2 "			59	58								
3 "			59	59	57°	30·130						
4 "			59	59								
5 "			60	60					2	Cir.cum	b. c.	
6 "			60	60								
7 "			60	60								
8 "			61	60								
9 "			62	60	60°	30·190						
10 "			64	60								
11 "			66	60								
12 "			68	60					3			Temp. of the Rimac, near the bridge, 64°; air, 61°; three quarters of a mile further up the stream, in a large brauch running quite rapidly, water, 65°; air, 62°.
1 P. M.	Callao.		65	60								
2 "			64	60								
3 "			62	60	60°	30·120			4			
4 "			61	60								
5 "			60	60								
6 "			60	59							c. m.	
7 "			60	59					3			
8 "			60	59								
9 "			60	59	59°							
10 "			60	59					2			
11 "			60	58								
12 "			60	58								
Mean.			61·20	59·37	59	30·146						

U. S. SHIP VINCENNES.

CALLAO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 5.												
1 A. M.			60°	58°				S^{d}.	1		c. m.	
2 "			60	58								
3 "			59	60	58°	30·110						
4 "			60	60				Calm.	0			
5 "			61	59								
6 "			61	59						Cum.	c.	A Chilian brig arrived 15 days from Valparaiso.
7 "			65	59								
8 "			65	59								
9 "			63	59	59°	30·130		S^{d}.	1		m.	
10 "			64	60								
11 "	Callao.		61	59								
12 "			66	60								
1 P. M.			67	61								
2 "			68	62				S. E^{d}.	3	Clear.	b. m.	
3 "			67	61	62°	30·120						
4 "			66	61								
5 "			62	60								
6 "			60	60				S^{d}.	4			
7 "			60	60								
8 "			61	60						Cir.cum	b. c.	
9 "			61	60								
10 "			60	60					3		b. c. m.	
11 "			60	59								
12 "			60	59					2			
Mean.			62·37	59·7	59·66	30·120						
July 6.												
1 A. M.			60°	59°				S^{d}.	2		F.	
2 "			60	58								
3 "			57	58	57°	30·120						
4 "			57	58				S. E.		Cir.cum	f.	
5 "			58	58								
6 "			60	58								
7 "			60	58							c.	
8 "			60	58								
9 "			61	59	59°	30·160		S^{d}.		Clear.	b.	Surveying the island of San Lorenzo.
10 "			68	60								
11 "			68	60								
12 "			67	60								
1 P. M.	Callao.		65	60					4			
2 "			65	60								
3 "			62	59	60°	30·120						
4 "			62	59								
5 "			60	59					3			
6 "			60	59								
7 "			60	58								
8 "			60	58						Cum.	c. m.	
9 "			60	59					2			
10 "			60	59								
11 "			60	59								
12 "			60	59								
Mean.			61·25	58·83	58·66	30·133						

U. S. SHIP VINCENNES.

CALLAO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 7.												
1 A. M.			60°	58°				N^{d}.	1	Cum.	c.	
2 "			60	58								
3 "			59	58	57°	30·040						
4 "			59	58				Calm.	0			
5 "			59	58								
6 "			59	58								
7 "			59	58								
8 "			60	58								
9 "			62	59	61°	30·070		W^{d}.	1			
10 "			64	59						Cir.cum	b. c.	
11 "			65	60								
12 "			68	60					2			A Peruvian brig arrived from Huacho.
1 P. M.			70	60								
2 "	Callao.		70	60					1			
3 "			69	60	64°	30·030				Clear.	b.	
4 "			69	60								
5 "			65	60								
6 "			62	60				S^{d}.	2			
7 "			61	60						Cir.cum	b. c.	
8 "			62	60								
9 "			61	60	58°							
10 "			60	60								
11 "			60	60								
12 "			60	60				Calm.	0			
Mean.			62·62	59·25	60	30·046						
July 8.												
1 A. M.			59°	59°				N.W^{d}.	1	Cirrus.	b. c.	
2 "			59	59								
3 "			59	59	58°	30·040						
4 "			59	59				Calm.	0			
5 "			59	59								
6 "			59	59								
7 "			59	59								
8 "			60	59								
9 "			64	59	64°	30·070						
10 "			64	60				S. E^{d}.	1			
11 "			67	60								
12 "			69	60								
1 P. M.			69	60								
2 "	Callao.		67	60					2			
3 "			66	60	64°	30·030		S^{d}.				
4 "			64	60								
5 "			62	60					4			
6 "			61	60								
7 "			60	59								
8 "			60	59								
9 "			60	59	58°						b. c. w.	
10 "			59	59					3			
11 "			59	59								
12 "			59	59				Calm.	0			
Mean.			61·79	59·37	61	30·046						

U. S. SHIP VINCENNES.

CALLAO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 9.												
1 A. M.			59°	59°				Calm.	0	Foggy.	f.	
2 "			58	59								
3 "			58	59		30·040						
4 "			58	59								
5 "			59	60				N. W.	1		m.	
6 "			59	60					2			
7 "			59	60								
8 "			60	60								
9 "			63	60	61°	30·070		W^{d}.				
10 "			68	60				S. W^{d}.		Cir.cum	b. c.	A Peruvian brig arrived 7 days from Cumana; and a Chilian brig 17 days from Talcahuana.
11 "			72	61								
12 "			74	61								
1 P. M.	Callao.		72	61								
2 "			71	61					3			
3 "			68	60	66°	30·030						
4 "			68	60								
5 "			62	60						Over-	o.	
6 "			60	59						cast.		
7 "			60	59							F.	
8 "			60	59								
9 "			60	60	59°			S^{d}.	2			
10 "			60	60							f. w.	
11 "			59	59								
12 "			59	59								
Mean.			62·75	59·79	62	30·046						
July 10.												
1 A. M.			59°	59°				S. E^{d}.	2	Cirrus.	b. c. w.	
2 "			59	59								
3 "			59	59	57°	30·020						
4 "			59	58								
5 "			59	58				S^{d}.	1		m.	
6 "			59	58								
7 "			59	59								
8 "			60	59								
9 "			63	59	58°	30·070		Calm.	0			
10 "			66	59								
11 "			67	60				W^{d}.	2	Clear.	b.	
12 "			68	60								
1 P. M.	Callao.		71	60								
2 "			70	60								
3 "			68	60	69°	30·030						Brought the astronomical instruments on board.
4 "			66	60				S. W^{d}.		Cir.cum	b. c.	
5 "			64	60								
6 "			61	60				S. E.				
7 "			61	60								
8 "			60	60						Clear.		
9 "			60	60	58°			S.W.	1		b. w.	
10 "			60	60								
11 "			59	60				S. E^{d}.	2	Over-	w. m.	
12 "			59	60						cast.		
Mean.			62·33	59·46	60·5	30·040						

U. S. SHIP VINCENNES.

CALLAO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 11.												
1 A. M.			59°	59°				S. E^{d}.	3	Over-	w. F.	
2 "			59	58						cast.		
3 "			58	58	56°	30·020						
4 "			59	59								
5 "			59	60								
6 "			59	60					1	Cir.cum	c. m.	
7 "			60	60							m.	
8 "			60	60					2			
9 "			65	60	60°	30·060						
10 "			64	60								
11 "			61	60						Cir.cum	c.	
12 "			61	60								Temp. of River Rimac during this day, from 69° to 71°; air, 66°.
1 P. M.	Callao.		61	60				S^{d}.				
2 "			61	60								
3 "			61	59	62°	29·990		S. W^{d}.				
4 "			60	59								
5 "			62	59				S^{d}.				
6 "			60	60							c. m.	
7 "			60	58								
8 "			59	58							F. w.	
9 "			59	58	58°							
10 "			59	58				S. E.	1			
11 "			58	58								
12 "			58	58								
Mean.			60·08	59·12	59	30·023						
July 12.												
1 A. M.			58°	58°				S^{d}.	1	Over-	F. w.	
2 "			58	58						cast.		
3 "			58	58	57°	30·020						
4 "			58	58								
5 "			58	58							F.	
6 "			58	58								
7 "			59	59							f.	
8 "			60	60				S^{d}.	2	Cum.	c.	The English brig Major arrived 114 days from Liverpool.
9 "			64	60	59°	30·060						
10 "			66	60								
11 "			66	60								
12 "			68	60								
1 P. M.	Callao.		69	60				S. S. W.	1			
2 "			64	60								
3 "			64	60	59°	30·020						
4 "			64	60				Var.		Cir.cum	b. c.	
5 "			63	60								
6 "			62	60				Calm.	0			
7 "			60	60								
8 "			61	60								
9 "			60	59	58°			S. E.	2		w.	
10 "			60	59								
11 "			60	59								
12 "			60	59								
Mean.			61·58	59·29	58·25	30·033						

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 13.												
1 A. M.			60°	56°				S^{d}.	2	Cum.	w.	
2 "			56	58								
3 "			58	58	56°	30·050						
4 "			58	58				Var.	1			
5 "			58	58								
6 "			59	58				Calm.	0			
7 "			59	58								
8 "			61	59								
9 "			62	59	60°	30·110		S. E.	1	Cir.cum	b. c.	
10 "			66	59								
11 "			66	60								
12 "			70	60					2			
1 P. M.	Callao.		75	61								
2 "			74	61								
3 "			63	60	61°	30·070						
4 "			62	60								
5 "			61	60								
6 "			61	60				S.S.W.				Went to sea with the squadron in company.
7 "			60	60								
8 "			60	61								
9 "			60	61	59°				3		c. w.	Course West.
10 "			59	61								
11 "			59	61								
12 "			60	62								
Mean.			61·96	59·54	59	30·077						
July 14.												
1 A. M.			60°	65°				S. E^{d}.	2	Cir.cum	b. c. w.	Course West.
2 "			60	65								
3 "			60	65	59°	30·100						
4 "			60	66					3			
5 "			60	66								
6 "			60	66								
7 "			63	65					2			Passed a Chilian brig, steering east.
8 "			63	65								Course W. by S.
9 "			63	65	62°	30·200						
10 "			64	66								
11 "			64	66								
12 "	11° 48′	78° 02′	64	65								
1 P. M.			64	67								
2 "			64	67								
3 "			64	67	62°	30·160						
4 "			64	68								
5 "			63	68					1			
6 "			63	67				Calm.	0			Course W.S.W.
7 "			63	67				Var.	1			
8 "			63	67				S. E^{d}.	2			
9 "			64	67	62°	30·240						
10 "			63	68								
11 "			63	68								
12 "			63	68					1			
Mean.			62·58	66·5	61·25	30·177						

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 15.												
1 A. M.			62°	67°				Calm.	0	Cir. stra.	b. c. w.	
2 "			62	67				S^{d}.	7			Course W. S.W.
3 "			62	67	63°							
4 "			62	67				South.				
5 "			63	67								A Peruvian brig seen.
6 "			64	68							b. c.	
7 "			64	68								
8 "			65	68								
9 "			65	68	62°	30·200						
10 "			66	68								
11 "			66	68								
12 "	11° 38′	79° 03′	67	68						Clear.	b.	Temp. of water at the depth of 300 fathoms, 51°.
1 P. M.			67	68								
2 "			67	68								
3 "			67	68	65°	30·100			2			
4 "			67	68								
5 "			65	67								
6 "			64	67					3			
7 "			64	67				S. S. E.	2			
8 "			64	67								
9 "			64	67	58°	30·130	68° 65°			Cir.cum	c.	Saw a barque steering north.
10 "			63	68								
11 "			59	67					3		c. w.	
12 "			59	67					2			
Mean.			64·08	67·5	62	30·143						
July 16.												Course W. S.W.
1 A. M.			63°	66°				Var.	1	Cir.cum	c.	At 12 h. 30 m., the wind hauled entirely round the compass, settling again in the S. E.
2 "			63	66								
3 "			63	66	60°	30·080	66° 64°					
4 "			62	66				S. E^{d}.	3			
5 "			62	67								
6 "			62	67								
7 "			62	67								
8 "			62	67						Clear.	b.	
9 "			67	68	67°	30·120	62° 60°					
10 "			67	68								
11 "			67	68								
12 "	11° 58′	80° 24′	67	68				S.E. by S.	4			
1 P. M.			67	68						Nimbus		
2 "			66	67								
3 "			65	67	64°	30·000	65° 65°					
4 "			64	67				S. by E.			d.	The first rain fell 180 miles from the coast.
5 "			63	66								
6 "			61	66					5			
7 "			63	67						Cir.cum	c.	
8 "			64	67				S. E^{d}.				
9 "			62	67	52°	30·100	70° 68°			Clear.	b. w.	
10 "			62	67					4			
11 "			62	67								
12 "			61	67								
Mean.			63·62	66·97	60·75	30·075						

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 17.												
1 A. M.			60°	67°				S. S. E.	4	Cum.	c.	Course W. S.W.
2 "			61	67								
3 "			62	67	62°	30·050	69° 66°					
4 "			62	67								
5 "			62	66								
6 "			62	66								
7 "			63	66								
8 "			63	66								
9 "			63	67	64°	30·100	Rain.					
10 "			64	67								
11 "			65	67								Squadron in company.
12 "	12° 23	82° 48	65	67								
1 P. M.			67	68								
2 "			66	68								
3 "			66	67	65°	30·100	72° 66°					
4 "			65	67								
5 "			65	68							b.	
6 "			65	68								
7 "			65	67						Clear.		
8 "			65	67								
9 "			65	67		30·100	65° 60°				b. w.	
10 "			64	67								
11 "			64	68								
12 "			65	68								
Mean.			63·92	67·08	63·66	30·087						
July 18.												
1 A. M.			64°	67°				S. S. E.	4	Cirrus.	b. c. w.	Course W. S.W.
2 "			64	67								
3 "			64	67	64°	30·080	65° 60°					
4 "			64	67								
5 "			64	68								
6 "			65	68								
7 "			65	68								
8 "			65	69						Cum.	c.	
9 "			65	69	65°	30·120	64° 60°					
10 "			65	69								
11 "			67	69								Temp. water at 290 fathoms, 50°.
12 "	12° 48′	84° 48′	68	69								
1 P. M.			68	68								
2 "			69	69								
3 "			69	69	67°	30·100						
4 "			69	68						Clear.	b.	
5 "			69	68								
6 "			68	68								
7 "			67	67								
8 "			66	67						Cum.	c.	
9 "			66	68	62°	30·150	72° 68°					
10 "			66	68								
11 "			65	67								
12 "			65	68								
Mean.			66·12	68	64·5	30·112						

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 19.												
1 A. M.			65°	68°				S. S. E.	4	Cir.cum	b. c.	Course W. S.W.
2 "			65	67								
3 "			65	67	64°	30·100	75° 66°					
4 "			65	67								
5 "			65	67								
6 "			65	67								
7 "			66	68						Clear.	b.	
8 "			66	68								
9 "			67	68	64°	30·180	75° 66°	S. E.				
10 "			67	68								
11 "			68	69								
12 "	13° 06′	86° 57′	68	70								Squadron in company.
1 P. M.			68	70								
2 "			68	70								
3 "			69	70	62°	30·120	68° 62°					
4 "			68	70								
5 "			68	70						Cirrus.		
6 "			67	70								
7 "			66	69								
8 "			66	69								
9 "			66	68	64°	30·180	66° 64°					
10 "			66	68							b. w.	
11 "			66	68								
12 "			66	68								
Mean.			66·5	68·5	63·5	30·145						
July 20.												
1 A. M.			67°	69°				S. E.	4	Cirrus.	b. w.	Course W. S.W.
2 "			67	69								
3 "			66	69	64°	30·100	68° 62°					
4 "			66	69								
5 "			66	69							b.	
6 "			66	69								
7 "			65	69						Clear.		
8 "			65	69				S.E.by E.				
9 "			68	70	66°	30·180	66° 62°					
10 "			70	71								
11 "			70	71								
12 "	13° 38′	89° 20′	70	71								
1 P. M.			68	70								
2 "			69	71				S. E.				
3 "			69	71	67°	30·110	66° 66°					
4 "			69	71								Saw numbers of flying-fish.
5 "			68	71								
6 "			68	70								
7 "			67	70						Cir.cum	b. c.	
8 "			67	70								
9 "			66	69	63°	30·240	76° 73°					
10 "			66	69				E. S. E.				
11 "			65	70								
12 "			66	70								
Mean.			67·25	70·29	65	30·157						

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 21.												
1 A. M.			68°	70°				E. S. E.	4	Cum.	b. c.	Course W. S. W.
2 "			67	70								
3 "			66	70	66°	30·150	73° 72°					
4 "			66	70							c.	
5 "			67	70								
6 "			67	70								
7 "			69	70				East.				Saw numbers of fly-ing-fish.
8 "			68	70								
9 "			69	70	68°	30·200	72° 71°		3	Cum. in	b. c.	
10 "			66	72				E. N. E.		horizon.		
11 "			65	72								
12 "	14° 04′	91° 54′	65	72								
1 P. M.			71	71								Temp. water at 270 fa-thoms, 53°.
2 "			71	71						Cirrus.	b.	
3 "			71	71	68°	30·150	72° 64°					
4 "			70	71						Cir. stra.	b. c.	
5 "			69	71								
6 "			68	70								
7 "			68	70								
8 "			68	70								
9 "			68	70	67°	30·200	68° 60°					
10 "			68	70				S. E.			b. c. w.	
11 "			67	70								
12 "			68	70					4			
Mean.			67·91	70·45	67·25	30·175						
July 22.												
1 A. M.			68°	68°				S. S. E.	4	Cir. stra.	b. c. w.	Course W. S. W.
2 "			68	68								
3 "			68	68	63°	30·130	69° 60°			Cir. cum	c. u.	
4 "			67	69								
5 "			67	68								
6 "			67	68							c.	
7 "			68	70								Squadron in company.
8 "			68	70				S. by E.		Cirrus.	b.	
9 "			69	70	67°	30·180	68° 62°					
10 "			70	71								
11 "			70	71								
12 "	14° 27′	93° 56′	70	71								
1 P. M.			68	71								Saw great numbers of flying-fish.
2 "			69	72								
3 "			69	72	67°	30·160		S. E.		Cir. stra.		
4 "			67	72								
5 "			68	71							b. c.	
6 "			68	70					5			
7 "			68	70								
8 "			68	71								
9 "			67	71	66°	30·200	71° 69°			Cum.	c.	
10 "			67	71						Clear.	b. w.	
11 "			68	71								
12 "			68	71					4			
Mean.			68·12	70·21	65·75	30·167						

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 23.												
1 A. M.			67°	71°				S. S. E.	4	Cir.cum	b. c.	Course W. S. W.
2 "			67	71								A lunar rainbow, alt.
3 "			67	71	67°	30·110	70° 62°					26°.
4 "			67	71						Clear.	b.	
5 "			68	72								
6 "			68	72								
7 "			68	72								
8 "			68	71								
9 "			72	72	72°	30·180	70° 67°					
10 "			70	72						Cum.	b. c.	
11 "			70	70								
12 "	14° 59′	96° 47′	70	70								
1 P. M.			73	72				S. E.				
2 "			74	73								
3 "			72	73	70°	30·150	69° 65°					Saw many flying-fish
4 "			69	73								and birds.
5 "			70	73				E. S. E.		Cir.cum	c.	
6 "			71	73								
7 "								S. E.				
8 "												
9 "			69	70	69°	30·220	70° 66°	S. S. E.				
10 "			68	70								
11 "			68	70							c. p.	
12 "			68	70							c.	
Mean.			69·27	71·45	69·5	30·165						
July 24.												
1 A. M.			68°	70°				S. S. E.	4	Cumuli.	c.	Course W. S. W.
2 "			69	71								
3 "			68	71	64°	30·150	74° 68°				c. d.	
4 "			69	71								
5 "			69	71								
6 "			69	72						Cir.cum	b. c.	
7 "			69	72								
8 "			72	72				S. E.				
9 "			71	73	70°	30·200						Numbers of flying-
10 "			72	73						Clear.	b.	fish.
11 "			74	73								
12 "	15° 35′	99° 39′	72	73								
1 P. M.			72	73								
2 "			72	73								
3 "			71	73	72°	30·180						Course W. by S.
4 "			70	72								
5 "			70	72								
6 "			70	71								
7 "			69	71								
8 "			69	71						Cum. in	b. c.	
9 "			69	71	70°	30·200	76° 74°			horizon.		
10 "			69	70								
11 "			68	70								
12 "			68	70								
Mean.			69·96	71·62	69	30·182						

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 25.												
1 A. M.			68°	72°				E.S.E.	4	Cir.cum	b. c.	Course W. by S.
2 "			67	72								
3 "			66	72	62°	30·170	73° 69°			Cum.	c. r.	
4 "			66	72								
5 "			66	73					5			
6 "			66	73								
7 "			67	73							r.	
8 "			69	73					6		p.	
9 "			69	73	68°	30·200	72° 70°					
10 "			70	73							p.	
11 "			71	74								
12 "	15° 41′	102° 47′	71	73						Nimbus		
1 P. M.			72	74					5			
2 "			72	74								
3 "			72	74	70°	30·180	69° 69°				c.	
4 "			72	74								
5 "			71	74								Saw many flying-fish.
6 "			71	74								
7 "			70	73								
8 "			69	73								
9 "			70	73	71°	30·220	71° 71°			Cum.		
10 "			70	73								
11 "			70	74					4			
12 "			70	74								
Mean.			69·37	73·2	67·75	30·192						
July 26.												
1 A. M.			67°	73°				E.S.E.	4	Cum.	c.	Course W. by S.
2 "			67	73								
3 "			67	73	70°	30·120	Rain.				d.	
4 "			66	73								
5 "			69	73								
6 "			70	74				East.				
7 "			72	74								
8 "			72	74								
9 "			74	74	72°	30·200	Light rain.	E. by N.			q. p.	
10 "			75	74								
11 "			75	74								
12 "	15° 51′	105° 56′	75	74								
1 P. M.			73	74								
2 "			73	74								Course S. W. by W.
3 "			73	74	72°	30·160	Rain.	E.S.E.				
4 "			73	74								
5 "			72	74								Saw many flying-fish, and a few tropical birds.
6 "			71	74			Rain ·8 in.			Cir.cum	b. c.	
7 "			70	74								
8 "			70	74								
9 "			69	73	70°	30·200	76° 74°			Clear.	b.	
10 "			69	73								
11 "			70	74								
12 "			70	74								
Mean.			70·91	73·7	71	30·170						

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 27.												
1 A. M.			69°	74°				East.	4	Cir.cum	b. c.	Course S. W. by W.
2 "			69	74								
3 "			70	74	68°		73° 71°					
4 "			70	74								
5 "			70	74						Cum.		
6 "			70	74							c. p.	
7 "			71	74								
8 "			72	74								
9 "			72	74	72°	30·200	71° 70°				c.	
10 "			72	74								
11 "			74	74				E. S. E.				
12 "	16° 56′	108° 17′	76	74								
1 P. M.												
2 "			74	76						Clear.	b.	
3 "			74	75	73°	30·150	74° 64°					
4 "			74	75				S. E.	3			
5 "			74	75								Course W. ¼ S.
6 "			73	75								
7 "			71	74								
8 "			71	74								
9 "			70	74	70°	30·220	70° 66°					
10 "			70	74				E. S. E.			b. w.	
11 "			71	74								
12 "			71	74					4			
Mean.			71·65	74·26	70·75	30·190						
July 28.												
1 A. M.			70°	74°				E. S. E.	4	Nimbus	b. w.	Course W. ¼ S.
2 "			70	74								
3 "			69	74	69°	30·120	Mist.				m.	
4 "			68	74								
5 "			69	75								
6 "			69	75								
7 "			70	75						Cum.	c.	
8 "			72	75				E. by N.				
9 "			73	75	72°	30·200	72° 71°				c. p.	
10 "			73	75								Course W. by S.
11 "			75	75					3			
12 "	16° 58′	110° 27′	75	75								
1 P. M.			75	75								
2 "			74	75				E. S. E.		Nimbus	c.	Saw two fin-back whales.
3 "			74	75	74°	30·140	75° 75°					
4 "			73	75				E. by S.				Course S. W. by W.
5 "			73	75								
6 "			71	75								
7 "			72	75								
8 "			72	75							F.	
9 "			72	75	72°	30·150	72° 71°					
10 "			71	75								
11 "			71	75								
12 "			71	75								
Mean.			71·75	74·83	71·75	30·152						

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 29.												
1 A. M.			70°	74°				S. E.	4	Clear.	b.	Course S. W. by W.
2 "			70	74								
3 "			70	74	70°	30·100	72° 69°					
4 "			70	74				E. S. E.	3			
5 "			70	75								
6 "			70	75								
7 "			71	75								
8 "			71	75				East.	2	Cirrus.	b. c.	
9 "			74	76	73°	30·160	74° 71°			Cir. stra.		
10 "			74	76								Temp. at 500 fathoms, 44°.
11 "			74	76						Clear.	b.	
12 "	17° 54′	112° 53′	74									
1 P. M.			75	75				N. E.				
2 "			75	77							b. c.	Temp. at 450 fathoms, 44·3°.
3 "			72	77	74°	30·100	74° 72°					
4 "			73	77						Cirrus.		
5 "			74	76								
6 "			72	76								
7 "			72	74						Cir.cum	c.	
8 "			72	75					1			
9 "			72	76	73°	30·120		S.W.				Steering to the northward.
10 "			72	76								Saw several meteors.
11 "			72	76				W. by N.				Zodiacal light in the west 30° broad on horizon, alt. 45°.
12 "			73	77								
Mean.			72·16	75·47	72·5	30·120						
July 30.												
1 A. M.			71°	76°				W. S. W.	1	Nimbus	u.	Steering to the northward and westward.
2 "			69	75				West.	4		q. r.	
3 "			69	75	69°	30·080	Rain		1		c.	
4 "			71	75			·1 in.	S. W^{d}.	3			
5 "			70	74								
6 "			71	74								
7 "			72	75						Cir.cum	b. c.	
8 "			72	75				SWbyW				
9 "			76	76	74°	30·100	75° 72°	W. S.W.				
10 "			77	76						Cum.	c.	
11 "			77	76					4			
12 "	17° 35′	113° 31′	75	76								
1 P. M.			74	76				S.W.byS.		Clear	b. c.	
2 "			73	76				S. W.		over-		
3 "			73	76	70°	30·020	74° 66°			head.		Jupiter distinctly visible.
4 "			73	76						Cir. stra.		
5 "			74	75				S. S. W.				Saw several tropical birds.
6 "			74	75								
7 "			71	75						Cum.	c. u.	
8 "			71	75								
9 "			71	74	72°	30·080						
10 "			70	74						Clear.	b.	
11 "			70	74								
12 "			70	74						Nimbus	c. u.	
Mean.			72·25	75·12	71·25	30·070						

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	Black Wool.	No Wool.			Direc.	Force.			
July 31.													
1 A. M.		71°	76°						S. by W.	3	Nimbus	c. d.	Steering to the westward.
2 "		71	76										
3 "		71	76	66°			30·080	Rain.					
4 "		71	76							1			
5 "		69	76						Var.			b. c.	
6 "		68	76										
7 "		71	76						S. by W.		Cum. in		The thermometers
8 "		72	76		81°	76°			South.	2	horizon.	b. c.	marked Black Wool
9 "		72	76	77°	85	77	30·120	74° 70°	S. S. E.		Clear.	b.	and No Wool are
10 "		73	76		84	79			S. by E.		Cum.	b. c.	the same as those
11 "		74	76		85	78							used at the Observa-
12 "		74	76						S. S. E.				tory.
1 P. M.		76	76		80	75							
2 "		74	76		85	77				4	Clear		
3 "		74	76	73°	95	84	30·100	73° 68°			over-	c. u.	Saw several birds.
4 "		74	76		85	78			S.E. by S.		head.		
5 "		73	76		78	75						q. p.	
6 "		73	76									b. c.	
7 "		71	76									b.	
8 "		71	76								Clear.		
9 "		72	74	72°			30·120	74° 73°	S. S. E.				
10 "		72	74								Cum. st.	b. c.	
11 "		72	74									c. p.	
12 "		72	74									b. c.	
Mean.		72·12	75·66	72	84·22	77·66	30·105						
Aug. 1.													
1 A. M.		69°	74°						S. E.	4	Cirrus.	b. c.	Steering to the westward.
2 "		68	74										
3 "		70	75	70°			30·080	72° 70°	S. S. E.		Cum.		
4 "		71	76										
5 "		71	76										
6 "		70	76										
7 "		71	76										
8 "		72	76								Cum. st.		
9 "		73	76	72°	74°	74°	30·150	74° 69°	E. by S.		Cir. &		
10 "		73	76		84	78					cum. in		
11 "		74	76		82	77					horizon.		
12 "		75	76		88	78			S. E.		Cir. stra.		
1 P. M.		73	76		93	80					Cir. &		Course W. by S.
2 "		73	76		82	77			S. by E.		cum. st.		
3 "		73	76	73°	77	75	30·100	76° 68°					
4 "		73	76		77	75			S. S. E.		Nimbus		
5 "		73	76										
6 "		74	76										
7 "		72	76										
8 "		72	76										
9 "		70	76	72°			30·140	73° 63°					Temp. water at 450 fathoms, 45°.
10 "		70	76										
11 "		70	76										
12 "		69	76										
Mean.		71·62	75·79	71·75	82·12	76·75	30·117						

Lat. 17° 05′ S. Long. 115° 05′ W.

Lat. 18° 07′ S. Long. 117° 14′ W.

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	Black Wool.	No Wool.			Direc.	Force.			
Aug. 2.													
1 A. M.		71°	74°						S. E^{d}.	1	Clear.	b.	Steering to the southward and westward.
2 "		71	74										
3 "		70	74	71°									
4 "													
5 "		71	75							2			
6 "		71	75										
7 "		71	75										
8 "		72	76						E. S. E.		Cir. stra.	b. c.	
9 "		72	76	71°	82°	76°	30·160	73° 63°	S.E. byE.				
10 "		73	76		89	79							
11 "		73	77		83	77			East.	4			
12 "		73	77		84	83			E. by S.		Clear.	b.	
1 P. M.		75	76		90	80			E. by N.				
2 "		74	77		91	76			E. by S.				Course W. by S.
3 "		73	77	71°	84	77	30·080	73° 64°	S. E.				
4 "		72	76		75	74			S. by W.	2			
5 "		72	76										
6 "		72	76										Temp. water at 450 fathoms, 45°.
7 "		71	76						S. E.				
8 "		71	75										
9 "		71	76				30·100	71° 68°	East.	4	Cir. stra.	b. c.	
10 "		71	76										
11 "													
12 "										1	Cum.	c.	
Mean.		71·9	75·71	71	84·75	78·75	30·113						
Aug. 3.													
1 A. M.		70°	76°						E. by S.	1	Cum.	c.	Course West.
2 "		70	76										
3 "		70	76	70°			30·100	70° 64°					
4 "		70	76						E. S. E.				
5 "		70	75									c. p.	
6 "		71	75								Cum. st.	b. c.	
7 "		72	76										
8 "		73	76						Calm.	0			
9 "		75	76	77°	89°	78°	30·200	84° 70°	East.	1			
10 "		76	77		103	86			Calm.	0	Cirrus.		
11 "		74	76		115	88			E. by S.	1	Clear.	b.	
12 "		75	76		97	82			E. N. E.	2			
1 P. M.		77	77		104	84			East.				
2 "		76	77		96	84			E. N. E.				
3 "		75	77	72°	99	84	30·100	76° 66°	N. E.	3			
4 "		73	76		87	78							
5 "		72	76		76	76							
6 "		72	76						North.				
7 "		72	76										
8 "		72	76						N. N. W.				
9 "		72	76	72°			30·120	75° 68°					
10 "		72	76										
11 "		72	76										
12 "		72	76										
Mean.		72·62	76·08	72·75	96·22	82·22	30·130						

Lat. 18° 08′ S. Long. 118° 44′ W.

Lat. 18° 05′ S. Long. 119° 40′ W.

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. and Long.	THERMOMETERS. Air.	Water.	Mast-head.	Black Wool.	No Wool.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 4.													
1 A. M.	Lat. 18° 09′ S. Long. 121° 04′ W.	73°	76°						N. N.W.	3	Cir.cum	b. c.	Steering to the southward and westward.
2 "		73	76										
3 "		72	76	70°			30·100	72° 68°	NWbyN.				
4 "		72	76								Cirrus.	b.	
5 "		72	76							2			
6 "		71	76										
7 "		72	76										
8 "		72	77										
9 "		76	76	82°			30·200	80° 76°					
10 "		77	77		105°	86°							
11 "		79	77		110	89					Clear.		
12 "		79	77		109	88							
1 P. M.		79	77		105	85			N.N.W.				
2 "		79	77		100	84							
3 "		79	77	80°	100	84	30·100	79° 70°					
4 "		78	77		86	79			NWbyW				
5 "		76	77		80	78			N. N. W.				
6 "		74	77		77	77			North.	2			
7 "		73	77						W. N.W.		Cum.	b. c.	
8 "		73	77							3			Temp. water at 50 fathoms, 73·5°; at 100 fathoms, 73°; at 200 fathoms, 61°; at 300 fathoms, 50°.
9 "		73	76	74°			30·120	75° 71°					
10 "		73	76							2			
11 "		73	76										
12 "		73	76										
Mean.		74·62	76·5	76·5	96·77	83·33	30·130						
Aug. 5.													
1 A. M.	Lat. 18° 07′ S. Long. 122° 32′ W.	73°	76°						N. by W.	2	Cir. stra.	b. c.	Course West.
2 "		72	76										
3 "		72	76	71°									
4 "		72	76										
5 "		72	76						North.		Clear.	b.	
6 "		73	76										
7 "		73	76										
8 "		75	76							3			
9 "		76	77		84°	78°	30·200	79° 71°	N. N. E.				
10 "		76	77		92	80					Cirrus.		
11 "		77	77		92	82							
12 "		78	77		94	84				4			
1 P. M.		78	77		102	85							
2 "		78	77		95	85			N. by E.				
3 "		77	77	76°	89	79	30·120	78° 59°	N. E.				
4 "		77	77		94	82			North.				
5 "		77	77										
6 "		75	77						N.N.E.	5			A very brilliant meteor.
7 "		73	77										
8 "		73	77										
9 "		72	76	76°			30·200	76° 71°					
10 "		72	76										
11 "		72	76										Observed several meteors.
12 "		72	76							4			
Mean.		74·37	76·5	74·33	92·5	81·87	30·177						

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	Black Wool.	No Wool.			Direc.	Force.			
Aug. 6.													
1 A. M.		74°	77°						N. N. E.	4	Clear.	b.	Course West.
2 "		74	77										
3 "		74	76	74°			30·100	76° 73°					
4 "		74	76						North.	3			Saw many meteors shooting towards the S. W.
5 "		74	76						N. W^{d}.	2			
6 "		74	76							3			
7 "		74	76										
8 "		75	77										
9 "		78	77	74°	93°	80°	30·200	78° 75°	North.		Clear.	b.	Squadron in company.
10 "		78	77		93	82			N. by W.		Cum. at		
11 "		77	77		94	84					times.		
12 "		76	77		95	85			N. N. W.				
1 P. M.		79	77		97	85			North.	3			
2 "		78	77		95	85							
3 "		76	77		93	84	30·100	77° 74°	N. by W.	2			Course W. by S.
4 "		78	77		95	83							
5 "		78	77		84	80			N. N. W.	3			Sounded with 360 fathoms; no bottom. Temp. water, 46°.
6 "		74	78						N W by W	2			
7 "		74	77										
8 "		73	77										
9 "		73	77	72°			30·180	76° 74°		1			
10 "		73	77									b. w.	Saw several meteors generally moving towards the S. W.
11 "		72	77										
12 "		72	77										
Mean.		75·08	76·83	73·33	93·22	83·11	30·145						
Aug. 7.													
1 A. M.		72°	77°						N. W^{d}.	1	Clear.	b. w.	Steering to the S. W. Six meteors seen.
2 "		72	77										
3 "		72	77	72°			30·150	74° 70°					
4 "		72	77						Calm.	0		b.	
5 "		73	77						N. W^{d}.	1			
6 "		73	77										
7 "		74	77										
8 "		75	77		90°	82°							
9 "		78	77	*92°	112	86	30·200	81° 73°	N^{d}.		Cum. at		*In the sun.
10 "		80	77		113	88			W. N. W.		times.		
11 "		81	78		114	90					Clear.		
12 "		83	78		108	91			N. N. W.				
1 P. M.		78	79		101	87			Calm.	0			
2 "		80	79		109	89							
3 "		79	80	79°	91	80	30·150	81° 70°	N. by W.	1			
4 "		78	80		91	80							
5 "		74	77		83	80			Calm.	0	Cum. in		
6 "		74	77								horizon.	b. c.	Temp. water at 375 fathoms, 46·5°.
7 "		74	78						E^{d}.	1			Course West.
8 "		74	78										Temp. water at 100 fathoms, 75°.
9 "		73	77	75°			30·240	76° 70°					
10 "		73	77										Saw two meteors rising from near Aquilæ and shooting towards Antares.
11 "		73	77										
12 "		73	77										
Mean.		75·33	77·58	79·5	101·2	85·3	30·185						

Lat. 18° 04′ S. Long. 124° 19′ W.

Lat. 18° 15′ S. Long. 125° 00′ W.

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	Black Wool.	No Wool.			Direc.	Force.			
Aug. 8.													
1 A. M.		74°	77°						Calm.	0	Cum.	b. c.	Course West.
2 "		74	77										Saw several meteors.
3 "		73	77	76°			30·180	75° 73°	S. E^{d}.	1			
4 "		73	77								Cum. st.		
5 "		73	77								Nimbus	c. p.	
6 "		72	77									b. c.	
7 "		75	77								Cum. in		
8 "		77	77							2	horizon.		
9 "		78	77	78°	87°	79°	30·280	78° 74°	E. S. E.				
10 "		77	77		93	83				3			
11 "		77	77		97	88			S. E.				
12 "		78	77		110	90							
1 P. M.		80	78		105	88					Clear.	b.	Course W. ¼ S.
2 "		79	78		92	84			E. S. E.	4			
3 "		76	78	79°	93	82	30·200	75° 66°					
4 "		75	78		89	81					Cum.	b. c.	
5 "		74	78		79	78							
6 "		74	78							5			
7 "		74	78										A long swell from the
8 "		75	78						E^{d}.		Cum.	c.	eastward.
9 "		75	77	73°			30·280	74° 72°					
10 "		75	77										
11 "		75	77										Observed many me-
12 "		75	77							4	Clear.	b.	teors.
Mean.		75·33	77·33	76·5	93·88	83·66	30·235						
Aug. 9.													
1 A. M.		74°	77°						E. S. E.	4	Clear.	b.	Course W. ¼ S.
2 "		74	77										
3 "		73	77	73°			30·240	74° 72°					From 12h. 30m. to 4h.,
4 "		73	77										saw 170 meteors.
5 "		74	77										
6 "		74	77								Cum.	b. c.	
7 "		75	77										
8 "		77	77										
9 "		78	77	77°	97°	83°	30·300	75° 70°		5			Temp. at 400 fathoms,
10 "		77	78		104	87							49°.
11 "		78	78		105	90							
12 "		79	78		102	87			E. by S.				
1 P. M.		77	78										
2 "		77	78										
3 "		77	78	75°			30·200	78° 71°			Cir.cum		
4 "		77	78						East.	4			
5 "		77	78										
6 "		76	78										
7 "		75	78										
8 "		75	78						E. S. E.	5	Cum. in	b.	
9 "		74	78	74°			30·200	76° 70°			horizon.		
10 "		73	78										
11 "		73	77										Many meteors seen.
12 "		73	77										
Mean.		75·41	77·54	74·75	102	86·75	30·235						

Lat. 18° 09′ S. Long. 125° 39′ W.

Lat. 18° 10′ S. Long. 128° 27′ W.

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	Black Wool.	No Wool.			Direc.	Force.			
Aug. 10.													
1 A. M.		73°	78°						E. S. E.	5	Cum. st.	b. c.	Course W. ¼ S.
2 "		73	78										Observed 105 meteors.
3 "		73	78	74°			30·200	74° 70°					
4 "		73	78										
5 "		73	78										
6 "		75	78										
7 "		74	78										
8 "		76	78										
9 "		77	79	76°	92°	83°	30·220	79° 69°	East.		Cir. stra.		
10 "		78	79		100	85					Cum. st.		
11 "		79	79		107	87					Cir. and		
12 "					97	85			E. by N.		Cir. stra.		
1 P. M.		78	79		104	86					Cir. stra.		
2 "		78	79		92	84			East.				
3 "		79	79	77°	93	83	30·160	76° 74°					
4 "		77	77		84	81							
5 "					79	77					Cum. st.	c.	
6 "		76	78						E. N. E.	4			
7 "		76	78								Nimbus	c. u. l.	
8 "		76	78										
9 "		76	78	76°			30·200	76° 74°					Saw one meteor.
10 "		76	78							3		r. l.	
11 "		76	78						Calm.	0			
12 "		76	78									r. l. t.	
Mean.		75·82	78·23	75·75	94·22	83·33	30·195						
Aug. 11.													
1 A. M.		70°	76°						Calm.	0	Nimbus	r. l. t.	Course W. ¼ S.
2 "		70	76						East.	2			
3 "		70	76	77°			30·160	Rain.	S. E.				
4 "		69	76										
5 "		73	77								Stratus.	c.	
6 "		73	77						S. by W.				
7 "		73	77						S. S. E.	3			
8 "		74	76										
9 "		75	76	76°			30·200	77° 71°		4	Clear.	b.	
10 "		77	77		101°	83°			E. by S.				
11 "		77	78		100	87					Cum. st.	b. c.	Squadron in company.
12 "		79	78		105	86					Cirrus.		
1 P. M.		77	78		96	83					Cir. stra.		
2 "		76	78		105	86							
3 "		76	78	73°	97	83	30·100	78° 76°	E. by N.		Cirrus.		
4 "		76	78		99	83					Cir. stra.		Course W. S. W. ¼ W.
5 "		76	79		81	77							
6 "											Nimbus	c. u.	
7 "		76	78									c. u. l. t.	
8 "		76	78						E. N. E.	3			
9 "		75	78	73°			30·180	76° 74°		7		q. r. l. t.	
10 "		70	78						S. W. by S.	2		c.	
11 "		70	77						S. E^{d}.	3			
12 "		72	77								Clear.	b.	
Mean.		73·95	77·26	74·75	98	83·5	30·160						

Lat. 18° 23′ S. Long. 131° 15′ W.

Lat. 18° 21′ S. Long. 133° 22′ W.

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	Black Wool.	No Wool.			Direc.	Force.			
Aug. 12.													
1 A. M.		72°	77°						S. E^d.	3	Cirrus.	b. l. c.	Course W. S. W. $\frac{1}{2}$ W.
2 "		72	77										
3 "		72	78	72°			30·180	75° 72°					
4 "		73	78						E. S. E.				
5 "		72	78										
6 "		72	78										
7 "		74	78								Cum.	c.	
8 "		74	78										
9 "		76	78	76°			30·160	75° 72°					
10 "		78	78									c. u.	
11 "		78	78						N. E.				
12 "		78	78										
1 P. M.		79	78										
2 "		79	78							2			
3 "		77	78	76°			30·120	76° 74°	S.E. by E.				Course W. $\frac{1}{2}$ S.
4 "		76	78										
5 "		76	78								Cir.cum	c.	
6 "		73	78						S. by W.				
7 "		73	77						S. S. E.	1	Cirrus.	b. c.	
8 "		73	77										
9 "		74	77·5	74°			30·160	76° 72°	E^d.				
10 "		75	77·5							2			Course West.
11 "		76	77·5								Clear.	b. l.	
12 "													
Mean.		74·87	77·76	74·5			30·155						
Aug. 13.													
1 A. M.		73°	77°						E^d.	2	Clear.	b. l.	Course W. $\frac{1}{2}$ S.
2 "		74	77										
3 "		74	77	75°			30·120	72° 70°					
4 "		74	77										
5 "		74	74										
6 "		75	78										
7 "		75	78								Cirrus.		
8 "		76	78	*88°					S. E^d.				*In the sun.
9 "		79	78		105°	84°	30·200	85° 75°		1			
10 "		81	78		113	87				2			
11 "		79	79		114	86			S. S. E.				Island of Clermont de Tonnerre in sight bearing W. by S.
12 "		77	79		105	89					Cum.	c.	
1 P. M.		80	79		107	90			S. by W.	1			
2 "		81	79		106	85							
3 "		81	79	76°	100	83					Clear.	b.	
4 "		82	80		92	81							
5 "		80	79		83	77				2			Squadron in company.
6 "		76	78										
7 "		74	78								Cirrus.		
8 "		74	78										
9 "		72	77				30·170	77° 70°					
10 "		72	77									b. l.	
11 "		72	77						Calm.	0			
12 "		72	77										
Mean.		76·04	77·66	79·66	102·77	83·55	30·163						

Lat. 18° 33′ S. Long. 135° 08′ W.

Lat. 18° 31′ S. Long. 136° 00′ W.

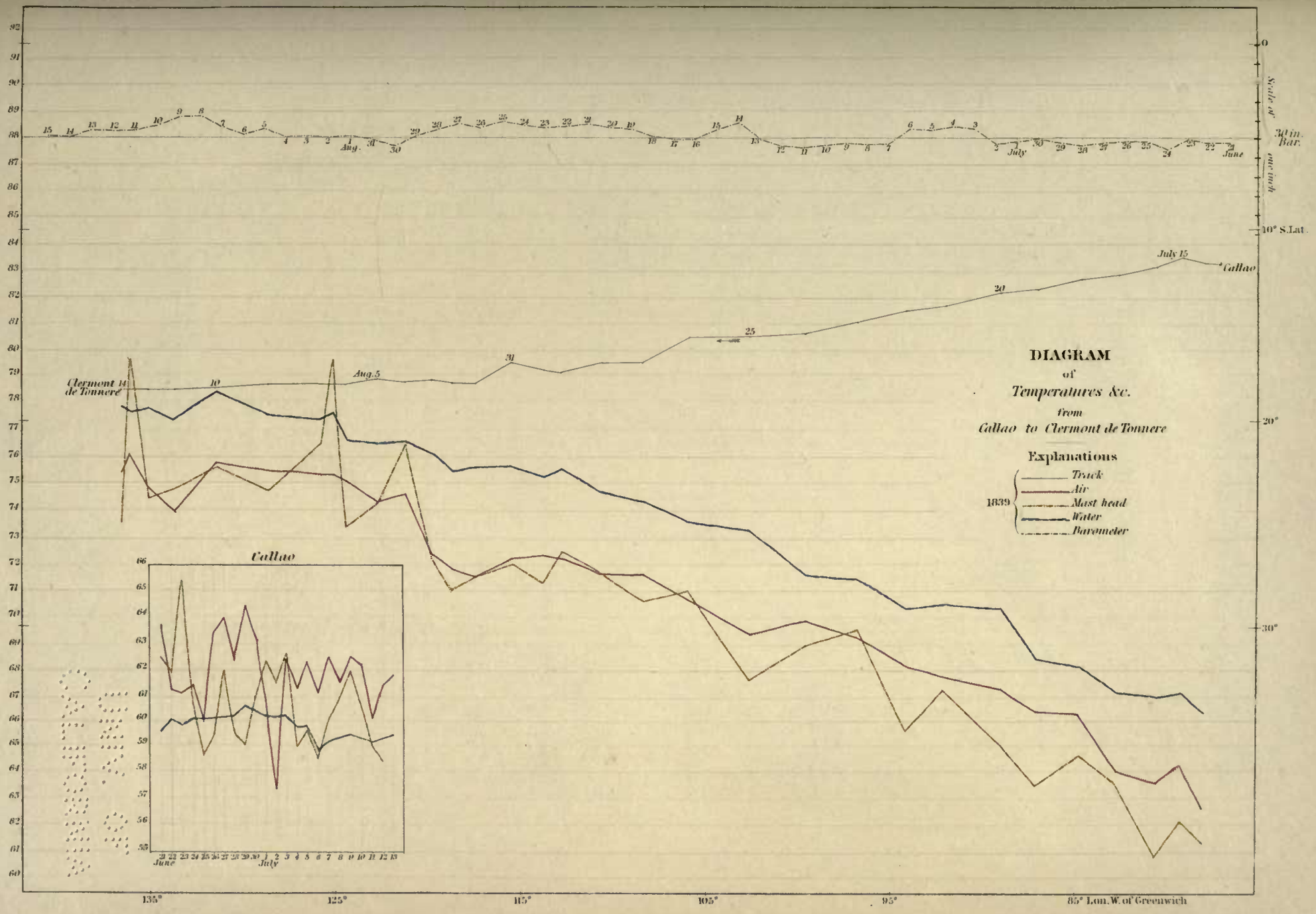


DIAGRAM
of
Temperatures &c.
from
Callao to Clermont de Tonnere
Explanations
1839
Track
Air
Mast head
Water
Barometer
Scale of one inch
30 in. Bar.
10° S. Lat.
20°
30°
Clermont de Tonnere
Callao
Aug. 5
July 15
Aug.
July
June
135°
125°
115°
105°
95°
85° Lon. W. of Greenwich

Yale Medical Library

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	Black Wool.	No Wool.			Direc.	Force.			
Aug. 14.													
1 A. M.		76°	78°						S. E.	4	Clear.	b. l.	Standing off and on.
2 "		76	78										
3 "		76	78	72°					S. S. E.				
4 "		76	78										
5 "		72	76										
6 "		72	77										
7 "		74	77								Cirrus.	b. c.	
8 "		75	78										
9 "		75	78	74°			30·160	75° 73°					Employed surveying the Island of Clermont de Tonnerre with the squadron.
10 "		76	78										
11 "		76	78						S. E.				
12 "		76	78							3			
1 P. M.		76	78							4	Cir. stra.		
2 "		76	78										
3 "		76	78	75°			30·100		S. E. by S.				
4 "		76	78										
5 "		Sun.	78										
6 "		76	78						E. S. E.				
7 "		76	78										
8 "													Saw a very brilliant meteor.
9 "		76	78	73°			30·140	76° 73°		3	Cum. st.	c.	
10 "		76	78						S. E.	4			
11 "		76	78										
12 "		76	78							3			
Mean.		75·45	77·82	73·5			30·133						
Aug. 15.													
1 A. M.		73°	77°						S. E^{d}.	3	Cum. st.	c.	Standing off and on.
2 "		72	77										
3 "		72	77				30·140	76° 72°					
4 "													
5 "		72	76										
6 "		72	76										
7 "		74	76										
8 "		76	76						S. E. by S.				
9 "		76	78	74°	78°	77°	30·150	76° 67°	S. S. E.		Cir. stra.	b. c.	Employed surveying.
10 "		81	78		93	83			S. E.				
11 "		82	78		97	84			S. S. E.		Clear.	b.	
12 "		78	78		85	80			South.		Cum. st.	b. c.	
1 P. M.					84	77							
2 "		80	78		97	82					Cir. stra.		
3 "				78°	83	77	30·100	78° 70°	S. S. E.				Finished the survey of Clermont de Tonnerre. Steering to the westward.
4 "													
5 "													
6 "									S^{d}.	4			
7 "		74	76										
8 "		74	76								Clear.	b.	
9 "		75	78				30·120	76° 68°					
10 "		75	78						S. S. E.				Hove to.
11 "		75	78										
12 "		75	78										
Mean.		73·33	77·76	76	88·14	80	30·127						

Lat. 18° 28′ S. Long. 136° 26′ W.

Lat. 18° 26′ S. Long. 136° 30′ W.

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	Black Wool.	No Wool.			Direc.	Force.			
Aug. 16.													
1 A. M.		75°	77°						S. E.	2	Cum. st.	b. c.	Hove to.
2 "		74	77										
3 "		74	77	73°			30·100	74° 68°					
4 "		74	77						S. S. E.	3	Clear.	b.	
5 "		73	77								Cirrus.	b. c.	Serle Island in sight.
6 "		73	77										
7 "		74	77										
8 "		74	77		90°	78°	30·160	76° 68°	South.		Clear.	b.	
9 "		74	77	76°	95	80			S. S. E.		Cum. in	b. c.	
10 "		74	77		82	78			S. by E.		horizon.		
11 "		76	78		86	79			E. S. E.	4	Cum. st.		
12 "		76	78		82	77							
1 P. M.		75	78		95	82			S. by E.				
2 "		75	78		93	82			S. E.				Squadron surveying
3 "				76°	92	79	30·080	76° 68°	S. S. E.		Clear.	b.	Serle Island.
4 "													
5 "		75	78						S. E.				
6 "		76	78										
7 "		76	78						E. S. E.	5			
8 "		76	78										
9 "		73	78	73°			30·140	76° 72°			Nimbus	c. p.	
10 "													
11 "													
12 "													
Mean.		74·58	77·47	74·5	88·12	79·37	30·120						
Aug. 17.													
1 A. M.		77°	78°						E. S. E.	4	Stratus.	c.	Standing off and on.
2 "		77	78										
3 "		79	78	76°			30·100	76° 69°					
4 "		78	78									d.	
5 "		75	78								Cum. st.	c.	
6 "		76	78								Clear.	b.	
7 "		76	78										
8 "		76	78										
9 "		73	78		83°	77°	30·150	77° 70°	E. S. E.		Cirrus.		
10 "		75	78		81	80					Cum. st.		
11 "		76	78		83	78			S. E. by E.	3			
12 "		76	78		86	83			S. E.		Clear.	b.	Serle Island bore S. by E.
1 P. M.		75	78		87	81					Cirrus.		
2 "		75	78		84	77			E. S. E.	4	Cum. st.		
3 "		74	78	74°	86	77	30·100	78° 70°					Course N. N. W. ½ W.
4 "			78		87	79					Clear.	b.	
5 "		79	78		78	76			East.		Cum. &		
6 "		78	78								nimbus.		
7 "		77	78										Squadron in company.
8 "		76	78								Cir.cum	b. c.	
9 "		78	78	74°			30·100		E. N. E.				
10 "		78	78										
11 "		78	78										
12 "		78	78										
Mean.		76·52	78	74·66	83·88	78·66	30·112						

Lat. 18° 21′ S. Long. 137° 04′ W.

Lat. 18° 05′ S. Long. 137° 13′ W.

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	Black Wool.	No Wool.			Direc.	Force.			
Aug. 18.													
1 A. M.		78°	78°						S.E. by E.	4	Cir.cum	b. c.u.	Hove to.
2 "		76	78										
3 "		76	78	74°			30·120						
4 "		76	78										
5 "		77	78								Nimbus	c.	
6 "		78	79										
7 "		75	78						South.	6		q. d.	
8 "		75	79							2			
9 "		74	79	75°			30·120	Rain.	N. E[d].	4	Cum.	c. d.	Course N. N. W. ½ W.
10 "		80	79								Cum. in		
11 "		81	80		87°	83°			N.E.byE.	3	horizon.	c.	
12 "		81	80		91	84					Cir.cum		
1 P. M.		80	80		*80	79			E. N. E.				*In the shade.
2 "		80	80		79	79					Nimbus		
3 "		80	80	76°	90	83	30·040	78° 76°			Cum.		
4 "		80	80		79	79							
5 "		74	80										
6 "		72	80										
7 "		78	79						East.	2			
8 "		78	79										
9 "		79	80	77°			30·120	78° 77°			Clear.	b.	
10 "		79	80										
11 "		79	80										
12 "		79	80										
Mean.		77·7	79·25	75·5	84·5	81·16	30·100						
Aug. 19.													
1 A. M.		79°	79°						East.	2	Cir.cum	b. c. l.	Course North.
2 "		78	79										
3 "		78	79	72°			30·100	77° 76°					
4 "		78	79										
5 "		77	79										
6 "		77	79										
7 "		78	79										
8 "		80	80							3			Course N. N. W.
9 "		81	80	†84°	104°	87°	30·150	82° 74°	E. by N.		Clear.	b.	†In the sun.
10 "		82	81		105	88							
11 "		82	81		102	89							
12 "		82	82		99	85							
1 P. M.		80	81		82	80					Cir.cum	b. c.	Honden Island in sight.
2 "		81	81		90	84							
3 "		80	81	76°	96	85	30·080	80° 73°					
4 "		80	81		83	80			East.		Cirrus.	b.	
5 "		80	81										
6 "		80	81										
7 "										4			Hove to.
8 "													
9 "		79	79	74°			30·100	78° 74°	E. S. E.				
10 "		79	79								Clear.	b. w.	
11 "		78	79										
12 "		78	79						S. E.				
Mean.		79·09	79·95	76·5	94·87	84·75	30·107						

Lat. 16° 31′ S. Long. 137° 59′ W.

Lat. 15° 24′ S. Long. 138° 46′ W.

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	Black Wool.	No Wool.			Direc.	Force.			
Aug. 20.													
1 A. M.		79°	80°						S. E.	2	Nimbus	c.	Standing off and on.
2 "		78	80										
3 "		76	80	74°			30·080	Rain	East.	3		r.	
4 "		76	80					·3 in.		1			
5 "		74	80								Cirrus.	c.	
6 "		74	80						E. by N.		Clear.	b.	
7 "		76	80							3			
8 "		78	80										
9 "		78	81	77°	96°	83°	30·120	79° 77°	East.				Surveying Honden Island.
10 "		80	81		99	85							
11 "		82	81		95	86					Cir.cum	b. c.	
12 "		82	81		92	84							
1 P. M.					85	81							
2 "					81	80			E. N. E.	2			
3 "				76°	90	85	30·060	80° 74°					
4 "													
5 "											Clear.		
6 "													
7 "		78	80										
8 "		78	80										
9 "		77	80	76°			30·100	79° 77°		4			
10 "		77	80						N. E.				
11 "		77	80										
12 "		78	80										
Mean.		77·66	80·22	75·75	91·14	83·42	30·090						
Aug. 21.													
1 A. M.		79°	80°						N. E.	3	Cirrus.	b. c.	Standing off and on.
2 "		79	80										
3 "		78	80	77°			30·080	78° 76°					
4 "		79	80										
5 "		79	80										
6 "		80	80										
7 "		81	80										
8 "		81	80										
9 "		81	80	78°			30·100	80° 73°					Surveying Honden Island.
10 "		81	80								Clear.	b.	
11 "		81	80							4			
12 "		80	81										
1 P. M.		81	81										
2 "		79	81										
3 "		80	81				30·000		N. N. E.				
4 "		81	81										
5 "													Course N. W.
6 "		79	81										
7 "		79	80										
8 "		78	80										
9 "		77	80	76°			30·050	78° 74°				b. w.	
10 "		77	80							2	Cirrus.		
11 "		77	80										
12 "		77	80										
Mean.		79·3	80·26	77			30·057						

Lat. 14° 56′ S. Long. 138° 47′ W.

Lat. 14° 47′ S. Long. 138° 55′ W.

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	Black Wool.	White Wool.			Direc.	Force.			
Aug. 22.													
1 A. M.		79°	79°						N. N. E.	4	Clear.	b.	Steering to the northward and westward.
2 "		79	79										
3 "		79	79	74°			30·000	78° 74°					
4 "		78	79										
5 "		77	79						North.				
6 "		79	80										
7 "		81	80								Cirrus.		
8 "		84	81										
9 "		79	81	83°	112°	100°	30·120	83° 74°	N. N. E.	2	Cum.	b. c.	
10 "		81	81		109	103			N. E.		Cir.cum		
11 "		82	81		112	108							
12 "		83	81		106	105							
1 P. M.		83	81		113	106							Squadron in company.
2 "		83	81		102	98					Clear.	b.	
3 "		83	81	83°	102	100	30·040	83° 78°					
4 "		83	81		104	97					Cum.	b. c.	
5 "		82	81		86	83			E. N. E.	3			
6 "		81	81							2			
7 "		79	81										
8 "		78	81							3			
9 "		80	79	80°			30·100	80° 76°	E^{d}.	2			Hove to.
10 "		80	79										
11 "		80	79										Temp. water at 100 fathoms, 78·5°.
12 "		80	79										
Mean.		80·54	80·16	80	105·11	101·11	30·065						
Aug. 23.													
1 A. M.		80°	80°						East.	3	Nimbus	c. u.	Hove to.
2 "		80	80										
3 "		80	80	76°			30·060	78° 74°					
4 "		79	80						E. N. E.				
5 "		78	80								Cum. st.		
6 "		78	80										
7 "		78	81										
8 "		81	81										
9 "		82	81				30·110	86° 76°	N. E.				Steering to the westward.
10 "		83	81										
11 "		83	81										The Disappointment Islands in sight, bearing W. S. W.
12 "									East.	6		q. r.	
1 P. M.		78	81										
2 "		78	81							3			
3 "		80	81	79°			30·000	Rain.	E. by S.				
4 "		80	81									c.	
5 "		78	81							2			
6 "		76	81						E. N. E.			p.	
7 "		79	81										
8 "		79	81							5		c. u.	
9 "		79	80	76°			30·100	Rain				q. r.	
10 "		78	80					·3 in.	East.	6			
11 "		76	80							4			Steering southward.
12 "		76	80										
Mean.		79·08	80·56	77			30·067						

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	Black Wool.	White Wool.			Direc.	Force.			
Aug. 24.													
1 A. M.		77°	80°						E. N. E.	4	Nimbus	c. p.	Standing off and on.
2 "		77	80										
3 "		77	80	75°			30·040	78° 72°					
4 "		78	80						East.			c.	
5 "													
6 "		79	81								Cum.	b. c.	
7 "		80	80										
8 "		80	80										
9 "		80	81	78°	95°	94°	30·040	80° 74°	E. N. E.				
10 "		81	81		98	90					Cirrus.		Surveying the Disappointment Islands.
11 "		82	81		93	94							
12 "		82	81		103	101							
1 P. M.		81	81		94	93							
2 "		81	81		103	101							
3 "		83	81	83°	92	93	30·040	83° 78°	N. E.		Clear.	b.	
4 "		82	81		85	88							
5 "		81	81		84	87			East.				Squadron in company.
6 "		81	81										
7 "		81	81										
8 "		80	81								Cir.cum	b. c.	
9 "		79	81	75°			30·100	80° 74°					
10 "		79	81										
11 "		79	80										
12 "		77	80										
Mean.		79·86	80·65	77·75	93	93·44	30·080						
Aug. 25.													
1 A. M.		80°	80°						East.	4	Cir.cum	b. c.	Standing off and on.
2 "		79	80										
3 "		79	80	76°			30·080	78° 76°	E. by N.				
4 "		79	80										
5 "		79	80										
6 "		80	80										
7 "		81	80							3			
8 "		82	81										
9 "		84	81	*86°	93°	97°	30·150	81° 77°	East.		Cum. in horizon.	b. c.	* In the sun.
10 "		83	81		97	99							Surveying the Disappointment Islands.
11 "		83	81		101	101				4			
12 "		83	81		94	93			E. N. E.				
1 P. M.					96	96							
2 "					91	93					Clear.	b.	
3 "				79°	89	90	30·040	81° 74°					
4 "					93	95							
5 "					88	92			East.				
6 "										2			
7 "		81	81										
8 "		79	81								Cum. st.	c.	
9 "		80	80	76°			30·100	80° 76°					
10 "		80	80										
11 "		79	80										
12 "		76	80						Calm.	0	Nimbus	r.	Rain ·3 in.
Mean.		80·39	80·39	79·25	93·55	95·11	30·092						

Lat. 14° 11′ S. Long. 141° 17′ W.

Lat. 14° 15′ S. Long. 141° 12′ W.

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	Black Wool.	White Wool.			Direc.	Force.			
Aug. 26.													
1 A. M.		78°	80°						E. N. E.	3	Cum. st.	b.c.d.	Standing off and on.
2 "		78	80										
3 "		78	80	76°			30·080				Cum.	c. d.	
4 "		78	80										
5 "		78	81									c.	
6 "		78	81							2			
7 "		79	81							1			
8 "													
9 "		81	82	79°	93°	93°	30·140	80° 76°			Cir. stra.		
10 "		83	82		84	87			N. E.	3	Cum.		
11 "		84	82		92	94			E. by N.				
12 "		82	82		87	87					Cir. stra.		Surveying the Disappointment Islands.
1 P. M.		84	82		109	108					Cum. in	c.	
2 "		84	82		103	102			N. E.		horizon.	b. c.	
3 "		84	82	82°	98	99	30·080	83° 76°			Cirrus.		
4 "		83	82							4	Cir. stra.		
5 "													
6 "													
7 "		80	80								Clear.	b.	
8 "		80	80										
9 "		80	81	78°			30·120	80° 74°	E. N. E.				Course S. W.
10 "		80	81										
11 "		80	81										
12 "		80	81										
Mean.		80·57	81·09	78·75	95·14	95·71	30·105						
Aug. 27.													
1 A. M.		79°	81°						E. N. E.	4	Clear.	b.	
2 "		79	81										Course S. W.
3 "		79	81	76°			30·100	79° 75°					
4 "		79	81										
5 "		80	80										
6 "		80	80										
7 "		83	80										
8 "		83	80										
9 "		84	81	82°	100°	97°	30·180	85° 75°			Cum. st.	b. c.	
10 "		84	81		108	103							
11 "		84	82		105	101						c. d.	
12 "		83	82		101	99			E. by N.				
1 P. M.		81	81		100	99					Nimbus	c.	
2 "		82	82		100	99					Cum.		Squadron in company.
3 "		83	82		94	93	30·100	82° 74°	E. N. E.	5			
4 "		82	82		93	94			N. E.				
5 "		83	81		87	91				4	Clear.	b.	
6 "		81	80										
7 "		81	80										
8 "		81	80										
9 "		79	80	75°			30·180	80° 75°	E. N. E.		Cir. stra.	b. c.	
10 "		79	80										
11 "		79	80										
12 "		79	80										
Mean.		81·12	80·65	77	98·66	97·33	30·140						

Lat. 14° 04′ S. Long. 141° 33′ W.

Lat. 14° 53′ S. Long. 142° 35′ W.

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	Black Wool.	White Wool.			Direc.	Force.			
Aug. 28.													
1 A. M.		79°	78°						E. N. E.	3	Clear.	b.	Course S.W.
2 "		79	78										
3 "		79	78	76°			30·180	80° 77°					
4 "									N.E.byE.				
5 "		80	80										
6 "		80	80										
7 "		82	80								Cir. stra.	b. c.	
8 "		83	80							4			
9 "		83	81	*98°	108°	100°	30·120	82° 75°	N. E.		Cum. in horizon.		* In the sun.
10 "		82	82		100	95							
11 "		82	82		95	91							
12 "		82	82		95	95			E. S. E.		Nimbus.		
1 P. M.		81	83		92	90			E. N. E.				
2 "		82	83		103	100							
3 "		82	83	80°	103	99	30·120	80° 76°			Cumulus		
4 "		82	83		88	89							
5 "		81	82		86	88			E. S. E.		Cir. and nimbus.	c. u.	
6 "		80	81										
7 "		78	81										
8 "		78	81										
9 "		78	80	76°			30·200	79° 76°					Hove to.
10 "		78	80								Nimbus.		
11 "		78	80										
12 "		78	80						S. E.	2		c. p.	
Mean.		80·3	80·78	82·5	98·88	95·22	30·155						
Aug. 29.													
1 A. M.		78°	80°						S. E.	2	Cum. st.	c.	Standing off and on.
2 "		77	80										
3 "		77	79	76°			30·140	79° 76°					
4 "		78	79						E. S. E.				
5 "		78	80										
6 "		78	80						East.	4			An unknown island in sight.
7 "		80	81										
8 "		82	82								Nimbus.		
9 "		84	82	80°	86°	82°	30·200	81° 78°	E. S. E.				
10 "		81	81		85	82			E. N. E.		Cir. cum.		
11 "		81	81		92	91			East.				
12 "					89	87			E. S. E.		Clear.	b.	Surveying Raraka Island.
1 P. M.		82	81		92	93					Cirrus.	b. c.	
2 "		82	81		98	92			E. N. E.		Cir. stra.		
3 "		82	81	80°	88	91	30·140	82° 74°					
4 "		81	81		82	84			S. E.				
5 "		81	81		83	84					Cumulus	c. u.	
6 "		80	81										
7 "		79	81										
8 "		79	81								Nimbus.		Hove to.
9 "		78	80	76°			30·160	81° 77°		5		q. r.	
10 "		77	80										
11 "		77	80										
12 "		77	80										
Mean.		79·52	80·56	78	88·44	87·33	30·160						

Lat. 15° 47′ S. Long. 143° 49′ W.

Lat. 15° 44′ S. Long. 144° 38′ W.

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 30.												
1 A. M.			77°	81°				S. E.	5	Nimbus	q. r.	Standing off and on.
2 "			77	80								
3 "			77	80	75°	30·100	75° 72°			Cum. st.	c.	
4 "			77	80								
5 "			78	80				E. S. E.				
6 "			78	80								
7 "			79	80								Raraka Island in sight bearing S.; King's Island E. ¼ S.
8 "			80	80						Clear.	b.	
9 "			82	81	82°	30·180	79° 72°					
10 "			80	81								
11 "			79	81				S. E.		Cirrus.	b. c.	Surveying the islands with the squadron.
12 "	16° 04′	144° 58′	80	81								
1 P. M.			80	81					4			
2 "			80	81								
3 "			80	81	78°	30·080	79° 77°	East.		Clear.	b.	
4 "			80	81								
5 "			79	81								
6 "			79	81								
7 "			78	81					5	Cum. st.		
8 "			78	81				S. E^{d}.			c. u.	
9 "			79	80	76°	30·120	79° 76°					
10 "			79	80					6		c. q.	
11 "			79	80								
12 "			79	80								
Mean.			78·91	80·54	77·75	30·120						
Aug. 31.												
1 A. M.			78°	80°				E. S. E.	6	Cum. st.	c. q.	Standing off and on.
2 "			78	80								
3 "			78	80	76°	30·080						
4 "			77	80						Nimbus		
5 "			79	80							q. r.	
6 "			80	81								
7 "			80	81				S.E.by E.			c.	Standing off and on Raraka Island.
8 "			80	81								
9 "			81	81	*86°	30·180	78° 74°		5			* In the sun.
10 "			81	81				S. S. E.		Cum. st.	c.	
11 "			82	81								
12 "	16° 01′	144° 59′	81	81								
1 P. M.			81	82								
2 "			80	82				S. E.	6			
3 "			80	82	78°	30·100						Vincennes Island in sight to the N.W.
4 "			80	82						Nimbus	c. u.	
5 "								E. S. E.				
6 "			79	80					7		c. d.	
7 "			77	81								
8 "			76	81				East.			q. r.	Steering to the northward and westward.
9 "			74	78		30·144	Rain.					
10 "			74	78								
11 "			76	79				E. S. E.				
12 "			76	79								
Mean.			78·6	80·45	80	30·126						

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	Black Wool.	White Wool.			Direc.	Force.			
Sept. 1.													
1 A. M.		78°	80°						S. E.	7	Cum.	q. r.	Steering to the westward.
2 "		78	80										
3 "		78	80	76°									
4 "		78	80										
5 "		77	80									c.	Hove to.
6 "		78	80										
7 "		79	80						E. S. E.			b. c.	
8 "		79	81										
9 "		79	81	76°			30·160	80° 76°					Standing off and on Vincennes Island, surveying.
10 "		79	81		94°	92°			S. E.	5			
11 "		79	81		94	93			E. S. E.		Cir.cum		
12 "		81	81		108	98							
1 P. M.		82	81		91	90							
2 "		82	81		86	88							
3 "		82	81	78°	84	85	30·080	80° 76°					Raraka in sight to the S. E.
4 "		80	81								Nimbus	c. p.	
5 "		80	81								Nimbus		
6 "		80	81								& cum.	c.	
7 "										6			
8 "													
9 "		80	80	78°			30·120	80° 77°				q. c.	
10 "		79	80							7		q. r.	
11 "		79	80										
12 "		79	80					Rain ·4 in.					
Mean.		79·9	80·5	77	92·83	91	30·120						
Sept. 2.													
1 A. M.		79°	80°						E. by S.	7	Nimbus	q.	Standing off and on.
2 "		79	80										
3 "		79	80	75°			30·080	79° 76°					
4 "		78	80										
5 "		79	80										
6 "		80	81										
7 "		80	81							8		q. r.	
8 "		79	81						East.	5			
9 "		79	81	77°			30·100	Rain		7			
10 "		81	81					·2 in.		5		c.	
11 "		82	81							4	Cum. st.	b. c.	Vincennes Island in sight to the eastward.
12 "													
1 P. M.		82	81										
2 "		82	81										
3 "		83	81	82°			30·060	79° 76°					
4 "		83	81						E. N. E.				
5 "		81	81										
6 "		80	81										
7 "		81	80										
8 "		81	80										
9 "		79	80	75°			30·100						Aratica Island in sight to the N.W.
10 "		79	80							5		c.	
11 "		79	80									c. p.	
12 "		79	80										
Mean.		80·17	80·52	77·25			30·085						

Lat. 16° 01′ S. Long. 145° 08′ W.

Lat. 15° 53′ S. Long. 145° 18′ W.

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water	Mast-head.	Black Wool.	White Wool.			Direc.	Force.			
Sept. 3.													
1 A. M.		80°	80°						East.	5	Clear.	b.	Steering to the N.W.
2 "		80	80										
3 "		79	80	76°			30·080						
4 "		79	80									b. c.	
5 "		80	80								Cum. st.		
6 "		80	80							4			
7 "		81	81										
8 "		82	81										
9 "		81	81		87°	88°	30·160	79° 74°	E. N. E.		Cum. in		
10 "		82	81		93	92					horizon.		Hove to.
11 "		83	81		90	89					Clear.	b.	
12 "		83	81		86	87							
1 P. M.		83	81		86	88					Cum.	c.	Surveying Aratica or Carlshoff Island.
2 "		82	81		86	90							
3 "		82	81	84°	84	85	30·080	82° 77°					
4 "		82	81		95	93							
5 "		81	81		84	85				5			
6 "		81	81										
7 "		80	81						E. by N.				
8 "		80	81										
9 "		80	81	77°			30·120	79° 75°			Clear.	b.	
10 "		80	81							6			
11 "		80	81										
12 "		79	81								Cum. st.	c.	Steering to the northward.
Mean.		80·83	80·75	79	87·88	88·55	30·110						
Sept. 4.													
1 A. M.		80°	80°						E. N. E.	5	Cum. st.	c.	Steering to the northward and westward.
2 "		80	81										
3 "		80	81	76°			30·060	79° 74°					
4 "		80	81								Clear.	b.	
5 "		80	81										
6 "		81	81							4			
7 "		83	81										
8 "		83	81										
9 "		83	81	79°	91°	93°	30·120	80° 74°	E. by N.				
10 "		82	81		90	91							
11 "		82	81		88	93							
12 "					95	93							
1 P. M.		82	81		93	94			E. N. E.				
2 "		82	81		91	91					Cum. st.	c.	
3 "		83	82	84°	88	87	30·100	80° 74°	East.				
4 "		83	82		85	85			E. N. E.				
5 "													
6 "		81	81										
7 "		80	81										
8 "		80	81										
9 "		80	81	78°			30·100						Manhii or Wilson's Island in sight to the westward.
10 "		80	81									c. p.	
11 "		80	80										
12 "		80	80										
Mean.		81·13	80·95	79·25	90·12	90·87	30·095						

Lat. 15° 29′ S. Long. 145° 39′ W.

Lat. 14° 38′ S. Long. 145° 36′ W.

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	Black Wool.	White Wool.			Direc.	Force.			
Sept. 5.													
1 A. M.		79°	80°						East.	4	Cum. st.	b. c.	Standing off and on.
2 "		79	80										
3 "		79	80	76°			30·040	79° 76°					
4 "		79	81										
5 "		79	81										
6 "		79	81										
7 "		80	81										
8 "		81	81										
9 "		82	81	80°	91°	90°	30·120	82° 76°	E. by N.		Cum.		
10 "		82	81		94	92							
11 "		82	81		94	93							Surveying Manhii or
12 "		82	81		86	89					Nimbus	c. u.	Wilson's Island with
1 P. M.		82	81		86	87					Cum. &		the squadron.
2 "		82	81		86	89			E. N. E.		nim.	c.	
3 "		82	81	81°	88	90	30·060	82° 74°			Cum.	b. c.	
4 "		82	81		84	84							
5 "		82	81		81	82							
6 "		82	81										
7 "		82	81										
8 "		82	81										Steering to the south-
9 "		81	81	77°			30·110	80° 76°					ward.
10 "		80	81								Clear.	b.	
11 "		79	81										
12 "		76	81										
Mean.		80·62	80·87	78·5	87·77	88·44	30·082						
Sept. 6.													
1 A. M.		80°	81°						E. N. E.	4	Clear.	b.	Steering to the south-
2 "		80	81										ward and westward.
3 "		80	81	78°			30·060	79° 76°					
4 "		80	81										
5 "		80	81						E. by N.	3			Hove to.
6 "		80	81										
7 "		80	81										
8 "		80	80						East.				
9 "		83	81	79°			30·130	80° 76°					
10 "		83	81										
11 "										4			Surveying Ahii or
12 "													Peacock's Island.
1 P. M.		83	81										
2 "		82	81										
3 "		82	81	77°			30·080	80° 76°					
4 "		81	81										
5 "		80	81						E. N. E.		Cum. st.	c.	
6 "		79	81									c. u.	
7 "		79	81							5		q. p.	
8 "		79	81								Nimbus		
9 "		80	81	77°			30·120	Rain.	E. by N.	6			
10 "		80	81										
11 "		77	81									q. r.	
12 "		77	81										
Mean.		80·23	80·95	77·75			30·097						

Lat. 14° 28′ S. Long. 145° 53′ W.

Lat. 14° 26′ S. Long. 146° 04′ W.

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	Black Wool.	White Wool.			Direc.	Force.			
Sept. 7.													
1 A. M.		79°	80°						E. by N.	6	Nimbus	q. d.	Standing along the land to the S. W.
2 "		79	80										
3 "		79	80	77°			30·100	Rain·1 in.					
4 "		79	80										
5 "		79	80										
6 "	Lat. 14° 34′ S. Long. 146° 26′ W.	79	80							5	Cum. st.	c.	
7 "		79	80										
8 "		80	81		86°	85°							
9 "		82	82	78°	87	84	30·140	81° 74°					
10 "		83	82		86	86							
11 "		84	82		93	93			E. N. E.	4	Clear.	b.	
12 "		84	82		85	86							
1 P. M.		82	82		86	88							Peacock Island in sight to the N. E.
2 "		82	82		84	85							
3 "		82	82	83°	94·5	93	30·050	82° 74°					
4 "		82	82		89	88							
5 "		82	82		86	86				3			
6 "		80	81										
7 "		80	81									b. l.	
8 "		80	81						E. by N.				
9 "		81	81	79°			30·120	80° 76°			Cum.	c. l.	
10 "		81	81							4			
11 "		81	81										Hove to.
12 "		81	81										
Mean.		80·83	81·08	79·25	87·65	87·6	30·102						
Sept. 8.													
1 A. M.		79°	80°						East.	4	Cum.	c. l.	Hove to.
2 "		79	80										
3 "		79	80	75°			30·090						
4 "		79	81										
5 "		78	82									c.	Steering S. W. by W.
6 "		78	82						E. by N.				
7 "		82	82										
8 "		83	82										
9 "		81	81	80°	88°	86°	30·150	84° 74°			Cum. &	b. c.	
10 "		82	81		97	92					nimb.		
11 "		83	81		92	91							Aratua or Rurick
12 "		83	81		98	96					Clear.	b.	Island in sight.
1 P. M.		81	81		90	90							
2 "		81	81								Nimbus	p.	Steering to the west-
3 "		81	81	80°			30·080	81° 74°			Cirrus.	b. c.	ward.
4 "		82	81										Kean's Island in
5 "		82	81										sight to the north-
6 "		81	81										ward.
7 "	Lat. 15° 01′ S. Long. 147° 32′ W.	80	81								Cum.	b. c.	
8 "		80	80										
9 "		79	80	77°			30·080						
10 "		79	80										Steering to the
11 "		79	80										southward.
12 "		79	80										
Mean.		80·41	80·83	78·5	93	91	30·100						

U. S. SHIP VINCENNES.

FROM CALLAO TO TAHITI.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 9.												
1 A. M.			79°	80°				East.	4	Cir.cum	b. c.	Steering southward.
2 "			80	80								
3 "			80	80	77°	30·080						
4 "			80	80				E. by N.	3	Clear.	b.	
5 "			79	80								
6 "			79	80								Metia Island in sight.
7 "			80	80								
8 "			82	81					4			
9 "			83	81	83°	30·100		E. N. E.		Cirrus.	b. c.	
10 "			83	81								
11 "			81	81				E. by N.				
12 "	15° 13′	148° 13′	81	81								Surveying Metia Island.
1 P. M.			81	81				E. N. E.				
2 "			82	81								
3 "			83	81	83°	30·040	80° 76°			Cum.	c. p.	
4 "			83	81								
5 "			81	80								
6 "			79	80				E. by N.		Clear.	b.	
7 "			79	80								
8 "			79	80								Course S. S. W.
9 "			79	80	78°	30·120	78° 74°	N. E.		Cirrus.	b. c. l.	
10 "			79	80								
11 "			79	79					3	Nimbus	c. u. l.	
12 "			79	79								
Mean.			80·41	80·29	80·25	30·085						
Sept. 10.												
1 A. M.			79°	79°				N. E.	3	Cum. st.	c. l.	Course S. S. W.
2 "			79	79								
3 "			79	79	76°	30·040	78° 76°	E. N. E.		Clear.	b.	
4 "			79	79								
5 "			79	80								
6 "			79	80				E. by N.				Tahiti in sight to the S. W.
7 "			80	80								
8 "			83	81								
9 "			84	80	81°	30·100	82° 74°	E. S. E.		Cum. in	b. c.	
10 "			83	80					2	horizon.		
11 "			83	80								Working up for Matavai Bay.
12 "	17° 16′	149° 21′	83	80								
1 P. M.			80	80						Clear.	b.	
2 "			79	80								
3 "			79	78	78°	30·040	81° 76°					
4 "			79	78								
5 "			79	78				S. E.				
6 "			76	79					1			Anchored in Matavai Bay, in 15 fms. water. Squadron in company.
7 "			76	79								
8 "			76	79								
9 "			78	79	74°	30·100	78° 70°	Calm.	0			
10 "			76	79								
11 "			75	79				S^{d}.	1			
12 "			74	79								
Mean.			79·04	79·33	77·25	30·070						

U. S. SHIP VINCENNES.

MATAVAI BAY, TAHITI.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Diree.	Force.	Clouds.	Weather.	Remarks.
Sept. 11.												
1 A. M.			81°	81°				S. E^{d}.	2	Clear.	b.	
2 "			80	81								A brilliant meteor starting from Orion's Belt.
3 "			72	79	71°	30·050	74° 66°	Calm.	0			
4 "			72	79								
5 "			72	79								
6 "			73	79								
7 "			75	79								
8 "			77	79								
9 "			80	80	78°	30·100	83° 66°			Cum. in horizon.	b. c.	
10 "			81	81				Var.	1			
11 "			83	81								
12 "			84	82								
1 P. M.			84	81						Clear.	b.	
2 "			84	81								
3 "			83	81		30·040	83° 68°					
4 "			83	81								
5 "			83	81				Calm.	0			
6 "			81	81								
7 "			79	80						Cirrus.		
8 "			79	80								
9 "			78	78		30·100	78° 68°					
10 "			78	78				S. E^{d}.	2		b. w.	
11 "			75	78								
12 "			74	78								
Mean.			78·75	79·91	74·5	30·072						

Matavai Bay.

OBSERVATORY, POINT VENUS, TAHITI.

INSTRUMENTS USED ON SHORE.

Barometer (standard).

Thermometer attached.

Thermometer 2½ feet from soil, with north-and-south exposure.

Thermometer, the bulb being covered with white wool, in same position.

" " " lampblack, "

" " " black wool, "

Thermometer in a hole four feet below the surface.

Hygrometer (Daniell's).

The temperature of water, and the thermometer at mast-head, were registered on board the U. S. Ship Vincennes.

OBSERVATORY.

POINT VENUS, TAHITI.

1839.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	No Wool.	White Wool.	Black Wool.	Black Bulb.	Hole.	Water.	Mast-head.		Direc.	Force.		
Sept. 12.														
1 A. M.			72°	72°	71·5°	72°		79°			S. E^{d}.	1	Clear.	b.
2 "			72	71·5	71	71·5		79						
3 "			71	71	70	70·5		79						
4 "			71·5	70	70	70		79						
5 "			70	70·5	70	70		79						
6 "			71	70	70	70		79						
7 "			72·5	72	72	73		79			Calm.	0		
8 "			81	89·5	94·5	86		79					Cir. stra.	b. c.
9 "			84·5	104	104	92		79					hazy.	
10 "			89·5	103·5	99	96		80					Cum. on	
11 "			86·5	93	90	89		80					hills.	
12 "			86	93	89	89		80			N. W.	1		
1 P. M.			90·5	98·5	98	97		80						
2 "			87	93	91	90	83°	80		85° 76°		3	Cir. stra.	c.
3 "			90	101·5	97	91	83	80						
4 "	30·196		83	89	94	90	83	80						
5 "	·212	82·5°	82·5	87·5	87	83·5		80						
6 "	·228		75·5	77·5	77·5	75·5	82	80						
7 "	·250							80				2		
8 "	·250	75	73	73·5	73	73		80			Calm.	0		
9 "	·264	73	72	72	72			80						
10 "	·262		72·5	72	71·5	72		79						
11 "	·260	73	72	71·5	71	72	81	79						
12 "	·260	73	72	72	71	71	81	79		72° 70°	S. E^{d}.	1	Clear.	b.
Mean.	30·242	75·3	78·09	82·13	81·47	80·13	82·16	79·5						
Sept. 13.														
1 A. M.	30·250	73°	70°	70·5°	70°	70·5°	81°	79°			Var.	1	Clear.	b.
2 "	·238	72	70	70	69·5	70	80	79						
3 "	·220	72	69·5	70	69·5	70	80	79		71° 68°				
4 "	·220	72	69	69	69	69	80	79			E^{d}.			
5 "	·224	71	69	69	69	69	79	78						
6 "	·224	70	69	69	69	69	79	78						
7 "	·236	72	74·5	73·5	73·5	74	80	78					Cir. stra.	b. c.
8 "	·332	72	77	81	81·5	81	80	78					Cirrus.	
9 "	·324	79	77	90	90	83	82	79						
10 "	·300	80	84·5	92	92·5	87	82	79			S. E^{d}.	2		b. c. q.
11 "	·300	82	89	101	102	97	82	79						
12 "	·288	82	89	101	101	97	81·5	79		81° 76°				
1 P. M.	·268	83	90	105·5	105	99	82	80			Calm.	0	Cum. on	
2 "	·266	81	82	91	91	83·5	83	80			N.W^{d}.	3	hills.	
3 "	·266	81	85	96	98	98·5	83	80					Clear.	b. q.
4 "	30·250	79·5	82	96·5	94	86·5	82	80						
5 "	·264	78·5	81·5	89	93·5	83	83	79				5		
6 "	·300	76	75	74	74	74	82	79						
7 "	·300	76	73	73	72	74	80	79						
8 "	·324	74	73·5	73	73	73·5	80	79				4		
9 "	·324	74	73·5	74·5	73	73·5	80	79	74°		Calm.	0		b. w.
10 "	·330	74	73	73	73	74	80	79			E^{d}.	3		
11 "	·330	74	73	73	73	73	80	79						
12 "	·310	73	72	72	72	72	80	79		72° 68°				
Mean.	30·277	75·09	76·62	81·1	81·29	79·2	80·87	79	74					

OBSERVATORY.

POINT VENUS, TAHITI.

1839.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	No Wool.	White Wool.	Black Wool.	Black Bulb.	Hole.	Water.	Mast-head.		Direc.	Force.		
Sept. 14.														
1 A. M.	30·300	73°	72°	72°	77°	72°	80°	77°			S. E^{d}.	3	Clear.	b.
2 "	·300	73	71·5	71·5	71·5	71	79	77						
3 "	·284	72	69	69	69	69	79	77						
4 "	·250	70	69	69	68·5	68·5	78	77						
5 "	·250	71	72	71	71	71	78	78						
6 "	·283	72	73	72	72	73	77	78			E. S. E.	4		
7 "	·294	74	76	81	80	80	77	78						
8 "	·324	76	79	91	94	86	77	79		78° 64°		3		
9 "	·324	79	85	99	102	93	78	79	80°					
10 "	·334	80	87	99	98	94	79	79			E^{d}.	5		
11 "	·326	81	87	97	95	94	80	79						
12 "	·300	82	85·5	94·5	91	87	81	79						
1 P. M.	·280	82	82	88·5	88	84	81	79						
2 "	·280	81	85	91	90	86	82	79						
3 "	·276	79·5	83	96	95	88	82	79	78°	80° 68°		4		
4 "	·278	79	83·5	101	101	90·5	82	79						
5 "	·288	78	81	93	95	85	81	78						
6 "	·290	76	74	74	74	74	80	78						
7 "	·290	74	74	74	74	74	80	77						
8 "	·300	74	74	74	74	74	80	77					Cir. stra.	c.
9 "	·360	74	74	74	74	74	80	78	74°					
10 "	·338	74	74	74	74	74	80	78			S. E.	5		
11 "	·308	74	73	73	73	73	80	78						
12 "	·300	74	73	73	72	73	80	78		74° 68°				
Mean.	30·292	75·91	77·33	82·08	82·2	79·5	79·62	78·12	77·33					
Sept. 15.														
1 A. M.	30·306	74°	75°	75°	75	75°	79°	79°			S. E^{d}.	4	Cum. st.	c.
2 "	·300	74	75	75	75	75	79	79						
3 "	·256	75	75·5	76	75·5	75	80	77	74°	75° 70°				
4 "	·240	75	76	76	76	75	80	77						
5 "	·250	75·5	76	76	76	76	80	77						
6 "								79						
7 "								79						
8 "	·272	77	77	77	77	71	80	79						
9 "	·300	80·5	80·5	83·5	83·5	81·5	80	79	77°					
10 "	·300	80	83	86·5	86	85	80	79						
11 "	·300	80	82	86·5	86	85	80	79						
12 "	·250	80	81	85·5	85	83	80	79						
1 P. M.	·218	80	82	85·5	85	84	81	79				5		
2 "	·224	81	83·5	89	89	86·5	82	79					Nimbus.	
3 "	·224	82	82	87	87	84	82	79						
4 "	·248	81	83	87	86·5	84·5	82	79		81° 73°				c. u.
5 "	·248	79·5	79	81	80·5	79·5	82	79						
6 "	·250	78	78	78	78	77·5	81	79						c. p. l.
7 "	·298	75	73	73	73	73	80·5	79				4		
8 "	·304	75	75·5	72·5	72·5	72·5	80	79						c. r. l. t.
9 "	·318	75	75·5	72	72	72	80	79	77°					c. p.
10 "	·318	75	75·5	72	72	72	80	79			E. S. E.			
11 "	·318	75·5	75·5	73	72·5	72	80	78						c. p. l. t.
12 "	·300	75·5	73	72	72	73	80	78		Rain ·1 in.				
Mean.	30·274	77·17	77·82	79·04	78·86	77·79	80·36	78·66	76					

OBSERVATORY.

POINT VENUS, TAHITI.

1839.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	No Wool.	White Wool.	Black Wool.	Black Bulb.	Hole.	Water.	Mast-head.		Direc.	Force.		
Sept. 16.														
1 A. M.	30·300	75·5°	76°	77°	77·5°	78°		79°			S. E^{d}.	4	Nimbus.	c.
2 "	·260	75·5	77	71·5	77	77		79						
3 "	·220	75·5	77	71·5	77	76·5		79	77°					
4 "	·220	75·5	77	72	72	77		78						
5 "	·218	77	77	72	72	77		78			E. S. E.		Cir. and	r.
6 "	·248	77	77	72	72	77	80°	78					nimb. on	c.
7 "	·254	77	78	74	74	79	80	78					mts.	
8 "	·284	79·5	81	76·5	77	83	81	78					Cumulus	c. p.
9 "	·294	81·5	87	81·5	90	95	81	78	78°		S. E.			
10 "	·286	81·5	84·5	79·5	92	88·5	81	79				5	Nimbus.	c.
11 "	·268	83·5	89·5	85	101	97	81	79					Cir. cum.	c. q.
12 "	·242	83	86	91	92·5	89·5	81	79						
1 P. M.	·200	84	88	96	96·5	91	82	79					Cir. stra.	c.
2 "	·200	82·5	84·5	90·5	89·5	87·5	82	79					Cumulus	
3 "	·200	83	89·5	98	96	97	82	79	81°			4	Cir. stra.	b. c.
4 "	·200	83	85	94	93	90	82	79					Clear.	b.
5 "	·228	82	83·5	92	91	88	83	79						
6 "	·262	80	78·5	78·5	78	77·5	82	79						
7 "	·262	79·5	78·5	78·5	78	78·5	82	79						b. l.
8 "	·262	79·5	79·5	79	78·5	78·5	81	78			East.	5	Cumulus	c.
9 "	·250	79·5	80	79	79	79	81	79					Nimbus.	c. t. l.
10 "	·252	79·5	80	80	79·5	79·5	81	79						r. t. l.
11 "	·224	79·5	74·5	77·5	77	77	80	79		Rain				
12 "	·224	75·5	72	72	72	72	81	79		2 in.	S. E.	4		
Mean.	30·246	79·64	80·75	80·75	82·58	82·91	81·26	78·7	78·66					
Sept. 17.														
1 A. M.	30·150	74°						78°			S. E.	4	Nimbus.	r. t. l.
2 "	·250	73						78						
3 "	·250	74						78	75°					
4 "	·200	73						78						
5 "	·192	71	70°	69·5°	69°	70°		78						d.
6 "	·192	71	70	70	69·5	70		78						
7 "	·200	73	73	72·5	72	72		78			E^{d}.	3		
8 "	·244	74	73	72·5	72·5	72		78						p.
9 "	·284	75	75	74·5	74·5	74	79°	78	75°					
10 "	·282	77	75	74	74	74	79	78					Cum. st.	b. c. p.
11 "	·228	77	75·5	74	74	76·5	79	80				4		
12 "	·200	77	73	73	73	74	80	80						
1 P. M.	·180	74	74	71·5	71	74·5	80	78						b. c.
2 "	·180	74	74	72	72	73	80	78						
3 "	·174	75	75	71·5	71	74·5	80	78	74°					
4 "	·162	75	75·5	71·5	72	71·5	80	78				3		
5 "	·200	75	77	71	74	77	80	78						
6 "	·233	77	77	75·5	77	77	80	78						
7 "	·233	77	75	73	76	76·5	79·5	78						
8 "	·250	77	75	74	75	75·5	79·5	78						
9 "	·250	76	75	73	75	73·5	79	78						c. p.
10 "	·241	75·5	74	73	73·5	75·5	79	78					Cumulus	c.
11 "	·241	75	74	73	73	75	79	78		Rain			Clear.	b.
12 "	·241	75	74	73	73	75	79	78		2·1 in.				
Mean.	30·216	74·75	74·2	72·6	73·05	74·75	79·43	78·16	74·66					

OBSERVATORY.

POINT VENUS, TAHITI.

1839.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	No Wool.	White Wool.	Black Wool.	Black Bulb.	Hole.	Water.	Mast-head.		Direc.	Force.		
Sept. 18.														
1 A. M.	30·241	75°	75°	73°	74°	74°	79°	78°			Ed.	2	Nimbus.	c. p.
2 "	·194	75	74	73	73	73	79	78						
3 "	·184	75	73	72	72	73	79	77	74°					
4 "	·184	74	72	72	72	72	79	77			E. by S.			
5 "	·184	74	73	71·5	72	71·5	79	78						
6 "	·190	73	72	70	71	72	79	78						
7 "	·200	73	75	71	74	75	79	78						
8 "	·250	74	75	70·5	77	75	79	78			E. N. E.			
9 "	·264	74	75	74·5	76	76·5	79	78	75°					r.
10 "	·264	74	75	74	75·5	76	79	78						d.
11 "	·250	80·5	78·5	76	79	81·5	80	81			E. S. E.	3	Cumulus	b. c.
12 "	·230	83	87·5	82	90	91·5	80	81					Cum. st.	
1 P. M.								80			Calm.	0		
2 "								80			Wd.	3		
3 "								80	80°					
4 "	30·150	84	86	89	90	89	82	80						
5 "	·152	82	82	84·5	83·5	83·5	82	79			S. W.	2	Clear.	b.
6 "	·200	81	78	77	77	88	82	79						
7 "								79						
8 "	·232	78	76·5	77	76	77	81	79						
9 "	·234	73	76·5	76·5	76	76	81	79	76°				Cir. stra.	b. c.
10 "	·226	77	75	75	75	75	80	79			Var.	1		
11 "	·212	76	75	74	74	74	80	79					Nimbus.	c.
12 "	·200	76	73	74	73	73	80	79						
Mean.	30·212	76·55	76·35	75·3	76·5	77·33	79·9	78·8	76·25					

DAILY MEANS.

1839.	Barom.	THERMOMETERS.							
		Att.	No Wool.	White Wool.	Black Wool.	Black Bulb.	Hole.	Water.	Mast-head.
Sept. 12th.	30·242	75·3°	78·09°	82·13°	81·47°	80·13°	82·16°	79·5°	
" 13th.	30·277	75·89	76·62	81·1	81·29	79·2	80·87	79	74°
" 14th.	30·292	75·91	77·33	82·08	82·2	79·5	79·62	78·12	77·33
" 15th.	30·274	77·17	77·82	79·04	78·86	77·79	80·36	78·66	76
" 16th.	30·246	79·64	80·75	80·75	82·58	82·91	81·26	78·7	78·66
" 17th.	30·216	74·75	74·2	72·6	73·05	74·75	79·43	78·16	74·66
" 18th.	30·212	76·55	76·35	75·3	76·5	77·33	79·9	78·83	76·25
Mean.	30·251	76·46	77·24	79	79·42	78·8	80·51	78·71	76·15

OBSERVATORY.

POINT VENUS, TAHITI.

RESULTS.

BAROMETER.

Mean of 7 days,	30·251
Highest mean,	30·292
Lowest mean,	30·212
Highest point,	30·360
Lowest point,	30·150

THERMOMETER WITHOUT WOOL.

Mean of 7 days,	77·24°
Highest mean,	80·75
Lowest mean,	74·2
Highest point,	90·5
Lowest point,	69

THERMOMETER WITH BLACK WOOL.

Mean of 7 days,	79·42°
Highest mean,	82·58
Lowest mean,	73·05
Highest point,	108
Lowest point,	69

THERMOMETER IN HOLE.

Mean of 7 days,	80·51°
Highest mean,	82·16
Lowest mean,	79·43
Highest point,	83
Lowest point,	77

THERMOMETER ATTACHED.

Mean of 7 days,	76·46°
Highest mean,	79·64
Lowest mean,	74·75
Highest point,	84
Lowest point,	70

THERMOMETER WITH WHITE WOOL.

Mean of 7 days,	79°
Highest mean,	82·13
Lowest mean,	72·6
Highest point,	105·5
Lowest point,	69

THERMOMETER WITH BLACK BULB.

Mean of 7 days,	78·8°
Highest mean,	82·91
Lowest mean,	74·75
Highest point,	99
Lowest point,	69

TEMPERATURE OF WATER.

Mean of 7 days,	78·71°
Highest mean,	79·5
Lowest mean,	78·12
Highest point,	81
Lowest point,	77

THERMOMETER AT MAST-HEAD.

Mean of 6 days,	76·15°
Highest mean,	78·66
Lowest mean,	74
Highest point,	81
Lowest point,	74

U. S. SHIP VINCENNES.

MATAVAI BAY, TAHITI.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 19.												
1 A. M.			76°	77°				E^{d}.	2	Cum. st.	b. c.	
2 "			76	78								
3 "			77	79	76°	30·133				Nimbus	r.	
4 "			77	78				S. E^{d}.				
5 "			76	78								
6 "			76	78						Cum. st.	c.	
7 "			77	79						Clear.	b.	Brought the instruments on board.
8 "			79	80								
9 "			79	78		30·130			4	Cum. st.	c.	
10 "	Matavai Bay.		80	79						Nimbus	r.	
11 "			78	79								
12 "			78	79								
1 P. M.			78	80				E.S.E.				
2 "			79	80							p.	
3 "			76	78								
4 "			76	78								
5 "			76	78							r.	
6 "			76	78								
7 "			76	78								
8 "			75	78					3			
9 "			74	79	74°	30·120				Cirrus.	c.	
10 "			74	79					2			
11 "			74	79				Calm.	0			
12 "			74	79								
Mean.			76·54	78·54	75	30·127						
Sept. 20.												
1 A. M.			78°	79°				Calm.	0	Cir. stra.	b. c.	
2 "			78	79								
3 "			75	78	74°			W^{d}.	1			
4 "			74	78								
5 "			74	79								
6 "			74	79				Var.				
7 "			74	79								
8 "			74	79				S. E^{d}.	2			Got under way.
9 "			75	79	78°	30·050						
10 "			77	79								
11 "	Papieti Harbour.		76	79				Var.	1			
12 "			76	79				Calm.	0			
1 P. M.			77	78				N.W.	2			
2 "			77	78								
3 "			76	78	75°	30·020						Anchored in Papieti Harbour, in 10 fathoms water.
4 "			76	78								
5 "			76	78								
6 "			76	78				Var.	1	Cum. st.	c. r.	
7 "			76	78								
8 "			75	77								
9 "			72	77	72°	30·240		S. E^{d}.	2		c.	
10 "			71	77								
11 "			70	76								
12 "			70	76								
Mean.			74·86	78·12	74·75	30·103						

U. S. SHIP VINCENNES.

PAPIETI HARBOUR, TAHITI.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 21.												
1 A. M.			70°	76°				East.	1	Cum. st.	c.	
2 "			70	76								
3 "			70	76	75°	30·190	78° 66°					
4 "			71	76				Calm.	0	Cirrus.	b. c.	
5 "			72	77								
6 "			72	77						Cir. st.	c.	
7 "			74	78								
8 "			75	78								Surveying the harbour.
9 "			76	78	77°	30·250	78° 65°					
10 "			78	78				N^{d}.	2			
11 "			78	78								
12 "			78	78								
1 P. M.			78	78								
2 "			78	78								
3 "	Papieti Harbour.		78	78	77°	30·240	78° 70°	Var.	1	Over-cast.	o.	
4 "			77	78								
5 "			77	78								
6 "			77	78								
7 "			75	77								
8 "			75	77								
9 "			74	77	74°	30·240	78° 64°			Cum.	b. c.	
10 "			74	77				Calm.	0			
11 "			73	77								
12 "			73	77								
Mean.			74·7	77·33	75·75	30·230						
Sept. 22.												
1 A. M.			70°	77°				Calm.	0	Clear.	b.	
2 "			70	77								
3 "			70	77	70°	30·210						
4 "			70	77						Cum. st.	c.	
5 "			71	77				N.W.	1			
6 "			72	78								
7 "			73	78								
8 "			74	78								
9 "			76	78	75°	30·240	79° 62°	West.				Surveying the harbour.
10 "			77	78								
11 "			78	78				Calm.	0			
12 "			79	78								
1 P. M.			78	78								
2 "			78	78								
3 "	Papieti Harbour.		78	78	78°	30·220	78° 68°	East.	1	Cirrus.	b. c.	
4 "			77	78								
5 "			77	78								
6 "			77	78								
7 "			77	78						Clear.	b.	
8 "			77	78								
9 "			75	77	74°	30·240				Cir. st.	b. c.	
10 "			73	76				S.W^{d}.	2	Cum.	c.	
11 "			72	76								
12 "			76	76								
Mean.			74·79	77·5	74·25	30·227						

U. S. SHIP VINCENNES.

PAPIETI HARBOUR, TAHITI.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 23.												
1 A. M.			72°	76°				S. W^{d}.	1	Cum. st.	c. p.	
2 "			73	76								
3 "			70	76	69°	30·250						
4 "			70	76						Cum.	c.	
5 "			72	76					3			
6 "			76	77								
7 "			77	78								
8 "			76	78						Clear.	b.	
9 "			82	80	78°	30·250	80° 60°		2	Cir. stra.	b. c.	
10 "			80	79								
11 "			84	79				Calm.	0	Clear.	b.	
12 "			84	79								
1 P. M.			83	79								
2 "			82	79								
3 "			82	79	80°		80° 70°					
4 "			81	79								The Peacock anchored near us.
5 "			80	79								
6 "			79	79								
7 "			78	78						Cirrus.		
8 "			78	78				Var.	1	Clear.		
9 "			74	78	72°	30·250	79° 70°	E^{d}.			b. w.	
10 "			72	78				Calm.	0			
11 "			74	78								
12 "			74	78								
Mean.			77·2	78	74·75	30·250						
Sept. 24.												
1 A. M.			70°	78°				S. E^{t}.	1	Clear.	b. w.	
2 "			70	78								
3 "			70	78	70°							
4 "			71	78					2			
5 "			71	78								
6 "			72	78						Cirrus.	b. c.	Boats employed surveying.
7 "			75	79								
8 "			78	79								
9 "			79	79	78°	30·250		Calm.	0	Cum. st.	c.	
10 "			80	79								
11 "			81	79								
12 "			81	79				S.W.	2	Cir. stra.	b. c.	
1 P. M.			82	80						Clear.	b.	
2 "			82	78								
3 "			81	78	80°	30·230	81° 74°					
4 "			81	78				W. N. W.	3			
5 "			81	78								
6 "			80	78					1			
7 "			79	78								
8 "			76	79				Calm.	0			
9 "			74	78	73°	30·250	79° 76°				b. w.	
10 "			73	78								
11 "			73	78								
12 "			73	78								
Mean.			76·37	78·37	75·25	30·243						

U. S. SHIP VINCENNES.

TALOO HARBOUR, EIMEO.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 25.												
1 A. M.			72°	78°				Calm.	0	Cirrus.	b. c.	
2 "			72	78								
3 "			73	79	71°	30·250	73° 71°					
4 "			73	79								
5 "			73	78				E^{t}.	2			
6 "			74	78								Got under way.
7 "			74	78								
8 "			75	78								
9 "			78	79	84°	30·200	82° 73°	Calm.	0	Clear.	b.	
10 "			79	79								
11 "			82	79				East.	1			
12 "			83	80								
1 P. M.			82	80				E. by N.	3			
2 "			82	80								Anchored in Taloo Harbour in 20 fathoms water.
3 "	Taloo Harbour.		82	81	80°	30·180	84° 74°		2			
4 "			80	80								
5 "			79	80				E. S. E.	3			
6 "			78	80								
7 "			78	80								
8 "			77	79								
9 "			77	78	76°	30·180	78° 74°	S. by E.	2		b. w.	
10 "			77	78								
11 "			77	78								
12 "			77	78								
Mean.			77·25	78·95	77·75	30·202						
Sept. 26.												
1 A. M.			74°	78°				S^{t}.	1	Clear.	b.	
2 "			73	79								
3 "			72	79	70°	30·180	75° 71°					
4 "			72	78								
5 "			70	77								
6 "			72	77				Calm.	0	Cir. stra.	b. c.	
7 "			74	78								
8 "			74	78								
9 "			80	78	77°	30·160	79° 73°			Cum. st.	c.	
10 "			81	78								
11 "			82	79								Surveying the harbour.
12 "			82	79								
1 P. M.			82	80				N. E.	2			
2 "			83	81								
3 "	Taloo Harbour.		84	83	84°	30·160	81° 76°		4	Cum.		
4 "			82	81								
5 "			81	80								
6 "			80	80				East.	3			
7 "			80	80					4			
8 "			80	80								
9 "			80	80	78°	30·160	76° 75°	S. E.	3	Clear.	b. w.	
10 "			79	78								
11 "			78	78								
12 "			75	78								
Mean.			77·91	79·04	77·25	30·165						

U. S. SHIP VINCENNES.

FROM EIMEO TO TUTUILA.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 27.												
1 A. M.			74°	78°				Sd.	1	Clear.	b. w.	
2 "			74	78								
3 "			70	78	69°	30·160	73° 72°					
4 "			70	78								
5 "			71	78				Ed.	2		b.	Got under way.
6 "			71	78								Course W. N.W.
7 "			78	78								
8 "			84	78						Cum. in horizon.		
9 "			85	78	81°	30·180	85° 75°					
10 "			81	80					3	Cir. stra.	b. c.	
11 "			81	80								
12 "	17° 17′	150° 11′										
1 P. M.			81	80				N. E.	4			Sir Charles Saunder's Isle in sight.
2 "			79	80								
3 "			80	80	77°	30·100	80° 75°					
4 "			80	80								
5 "			80	80					3	Clear.	b.	Huaheine in sight to the N.W.
6 "			79	79								
7 "			79	79								
8 "			78	78								Course N. N.W.
9 "					76°	30·080	79° 77°				b. w.	
10 "			78	78				E. N. E.				
11 "			78	79								
12 "			76	78								
Mean.			77·59	78·77	75·75	30·130						
Sept. 28.												
1 A. M.			79°	79°				E. N. E.	3	Clear.	b. w.	Course W. N.W.
2 "			79	79								Tahaa in sight.
3 "			79	79	76°	30·040	78° 76°					
4 "			79	79				N. E.				
5 "			79	79							b.	Borabora, Maufill, and Moutoiti in sight.
6 "			79	79								
7 "			79	79					2			
8 "			79	80								
9 "			80	82	80°	30·100	84° 74°	N. N. E.				
10 "			82	82								
11 "			81	82								
12 "	16° 06′	151° 50′	81	82								
1 P. M.			82	79								
2 "			81	79				N. E.	3	Cum.	c. u.	
3 "			81	80	79°	30·030	81° 76°					
4 "			81	82						Nimbus	r.	Course West.
5 "			75	80						Cum. st.		Rain ·3 in.
6 "			78	80							c.	
7 "			78	80					4			
8 "			79	80						Nimbus		
9 "			78	79	76°	30·060	78° 62°					
10 "			78	79								
11 "			78	79					3			
12 "			78	79				Wd.	2		c. d.	
Mean.			79·29	79·87	77·75	30·057						

U. S. SHIP VINCENNES.

FROM EIMEO TO TUTUILA.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	White Wool.	Black Wool.			Direc.	Force.			
Sept. 29.													
1 A. M.		75°	77°						W. N. W.	3	Cum. st.	c. d.	Steering to the northward.
2 "		76	78									c.	
3 "		77	79	74°			30·040	76° 75°			Cirrus.	b. c.	
4 "		77	79						N. N. W.				Course West.
5 "		77	79								Clear.	b.	
6 "		77	79							2			
7 "		80	80										
8 "		81	80								Nimbus	c.	
9 "		83	80	80°			30·100	85° 76°	Calm.	0		c. r.	
10 "		82	80										
11 "		77	80						S. E^{d}.	1			
12 "		78	80		89°	89°				2			Rain ·3 in.
1 P. M.		78	81		89·5	89·5					Cum. st.	c.	
2 "		78	81		84	84							
3 "		79	80	75°	83	83	30·050	81° 76°					
4 "		79	80		85	85			E. N. E.	3	Clear.	b.	
5 "		78	80		73	73							
6 "		78	80										
7 "		78	80						East.				
8 "		79	80										
9 "		79	80	76°			30·180	78° 74°	S. E.				
10 "		79	80								Cir. stra.	b. c.	
11 "		77	80						E. by S.	4			
12 "		77	79										
Mean.		78·2	79·66	76·25	83·91	83·91	30·092						
Sept. 30.													
1 A. M.		78°	80°						E. S. E.	4	Clear.	b.	Course West.
2 "		77	79										
3 "		77	79				30·180	78° 74°					
4 "		77	79										
5 "		80	80										
6 "		81	80										
7 "		82	79								Nimbus	c. u.	Bellinghausen's Island in sight.
8 "		83	80										
9 "		83	79		85°	85°	30·150	80° 76°					
10 "		80	78		87·5	87·5							Surveying the island.
11 "		79	80		76·5	76·5						r.	
12 "		78	78		80	80				3			
1 P. M.		81	80		83	82·5					Cum. st.	c.	
2 "		80	80		80·5	80							
3 "		80	80	79°			30·100	80° 76°					
4 "		79	80										Course W. by S.
5 "		80	80								Nimbus	r.	
6 "		79	80										Rain ·5 in.
7 "		80	80								Cum. st.	c.	
8 "		80	80										
9 "		78	80	76°			30·120	78° 76°					Heavy swell from the S.W.
10 "		78	79										
11 "		78	79										
12 "		78	79										
Mean.		79·41	79·5	77·5	82·08	81·91	30·137						

Lat. 15° 56′ S. Long. 152° 54′ W.

Lat. 15° 48′ S. Long. 154° 35′ W.

U. S. SHIP VINCENNES.

FROM EIMEO TO TUTUILA.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	White Wool.	Black Wool.			Direc.	Force.			
Oct. 1.													
1 A. M.		78°	79°						E^{d}.	3	Cum.	c.	Course W. ½ S.
2 "		78	79										
3 "		78	79	75°			30·000	78° 76°			Clear.	b.	
4 "		78	79										
5 "		77	79						N. E^{d}.	2	Stratus.	c. d.	
6 "		78	79										
7 "		79	80										
8 "		80	80								Nimbus		
9 "		84	80	84			30·170	80° 76°				q. r.	
10 "		77	80						W^{d}.	4			
11 "		79	80										Steering to the northward.
12 "		80	80						N^{d}.	3			Rain ·5 in.
1 P. M.		80	79								Cum.	c.	Steering to the southward and westward.
2 "		81	80										
3 "		81	81	78°			29·960	80° 78°				p. d.	
4 "		79	81						N. W.	2		c.	
5 "		80	81						W. N. W.				
6 "		79	81										
7 "		80	80						N. W.		Clear.	b. w.	
8 "		79	80										
9 "		79	80	76			30·150	78° 75°	W. by N.				Steering to the northward and westward.
10 "		79	80										
11 "		79	80										
12 "		79	80										
Mean.		79·2	79·87	78·25			30·070						
Oct. 2.													
1 A. M.		79°	80°						W. by S.	2	Clear.	b.	Steering to the northward and westward.
2 "		79	80										
3 "		79	80	76°			29·940	78° 76°					
4 "		79	80										
5 "		78	80										
6 "		79	80								Cirrus.	b. c.	
7 "		80	80										
8 "		84	80										
9 "		80	81	80°	87·5°	100·5°	30·040	79° 76°	S. S. W.		Cir. stra.	c.	Saw a few birds.
10 "		81	82		103·5	107			S. W. by S.				
11 "		82	82		108	109·5							
12 "		82	82		108	108·5			Calm.	0	Clear.	b.	
1 P. M.		85	84		93	91·5			N. W.	1	Cum. st.	c.	
2 "		86	84		113	115·5					Cum.		
3 "		85	83		97·5	98	29·960	83° 76°	Calm.	0			
4 "					97	97			W. S. W.	1		c. u.	
5 "		82	83		89	88			S W by W	4			
6 "		82	83							3	Nimbus	c. p.	
7 "		80	82						Calm.	0		c.	
8 "		80	82										
9 "		81	82				30·040	80° 76°	Var.	1		q. r.	
10 "		81	82						S. W.	4			
11 "		80	82						Calm.	0			Rain ·7 in.
12 "		80	82						W. N. W.	4			
Mean.		81·04	81·56	78	99·55	101·66	29·995						

Lat. 15° 38′ S. Long. 156° 04′ W.

Lat. 15° 13′ S. Long. 156° 42′ W.

U. S. SHIP VINCENNES.

FROM EIMEO TO TUTUILA.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	White Wool.	Black Wool.			Direc.	Force.			
Oct. 3.													
1 A. M.		74°	78°						Wd.	1	Nimbus	r.	Steering to the southward.
2 "		75	78										
3 "		76	80				29·950	76° 76°					
4 "		76	80									r.	
5 "		77	81										Rain ·4 in.
6 "		77	81						Calm.	0	Cum. st.	c.	Course W. by N.
7 "		78	81						S. S. W.	1			
8 "		80	81							4			
9 "		81	81	74°	88°	88°	30·060	77° 76°		5	Clear.	b.	
10 "		80	81		95	94					Cirrus.		
11 "		80	81		96	94							
12 "					95	92					Cir. stra.	b. c.	
1 P. M.		80	81		92·5	91							
2 "		80	81		99	98							
3 "		80	81	78°	91·5	91	29·940	80° 75°	S. by W.				
4 "		80	81		91·5	93							
5 "		80	81		86	86							
6 "		80	81								Clear.	b.	Course West.
7 "		79	81							6	Cum. in horizon.		
8 "		79	81										
9 "		78	81	76°			30·020	77° 74°			Cum.	b. c.	
10 "		78	81								Clear.	b. w.	
11 "		77	80										
12 "		77	80										
Mean.		78·35	80·56	76	92·66	91·88	29·992						
Oct. 4.													
1 A. M.		78°	81°						South.	6	Clear.	b. w.	Course West.
2 "		77	80										
3 "		77	79	74°			30·020	74° 72°					
4 "		77	79										
5 "		78	80										
6 "		79	81									b.	Course W. ½ S.
7 "		80	80										
8 "		81	81										
9 "		81	81	80°	92°	96·5°	30·080	79° 70°		5			
10 "		81	81		100	101			S. S. E.				
11 "		82	81		101·5	99							
12 "		81	81		99·5	100							
1 P. M.		78	81		100	101							
2 "		79	81		81	80							
3 "		80	80	78°	83	82·5	30·020	79° 76°					
4 "		80	81		82	81							
5 "		79	80		81·5	80							
6 "		79	80										
7 "		78	82										
8 "		78	82										
9 "		79	82	76°			30·140	76° 72°			Cum. st.	b. c.	
10 "		79	82							4			
11 "		79	82										
12 "		79	81										
Mean.		79·12	80·79	77	91·16	91·22	30·065						

Lat. 14° 49′ S. Long. 157° 38′ W.

Lat. 14° 22′ S. Long. 160° 24′ W.

U. S. SHIP VINCENNES.

FROM EIMEO TO TUTUILA.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	White Wool.	Black Wool.			Diree.	Force.			
Oct. 5.													
1 A. M.		79°	80°						S. S. E.	4	Cum. st.	b. c.	Course W. ¼ S.
2 "		79	80										
3 "		79	80	78°			30·000	76° 74°					
4 "		79	80										
5 "		79	80										
6 "		78	81										
7 "		79	80							5			
8 "		80	80						South.				
9 "		81	81	78°	95°	95°	30·120	78° 72°		4			
10 "		82	81		90	90			S. E.		Over-	o.	
11 "		82	81		91	90					cast.		
12 "		82	81		90	91							
1 P. M.		81	81									c. p.	
2 "		81	81										
3 "		79	81	76°			30·020	83° 78°		5		c.	
4 "											Cum. st.		
5 "		81	80										
6 "		79	80										
7 "		79	81						E. S. E.				
8 "		79	81										
9 "		79	80	77°			30·080	78° 76°	S. E.	4			
10 "		79	80										
11 "		79	80										
12 "		79	80										
Mean.		79·73	80·43	77·25	91·5	91·5	30·055						
Oct. 6.													
1 A. M.		78°	80°						S. S. E.	4	Cum. st.	c.	Course W. ¼ S.
2 "		79	80										
3 "		79	80	77°			30·000	76° 75°					
4 "		78	80										
5 "		79	81								Cum. in	b. c.	
6 "		80	81								horizon.		
7 "		81	81							3			
8 "		82	82										
9 "		82	82		87·5°	91°	30·060	79° 76°	South.	4			
10 "		82	82		93	92					Clear.	b.	
11 "		81	82		101	102							
12 "		81	82		101·5	101							
1 P. M.		81	82		92	91							
2 "		80	82		90·5	93			S. S. E.				
3 "		80	82	78°	90	91	29·960	79° 73°		3			Course W. by S.
4 "		80	80		81	80							
5 "		80	82										
6 "		80	81								Cirrus.	b. c.	
7 "		80	81										
8 "		80	81							4			
9 "		79	80	76°			30·000	77° 72°			Clear.	b.	
10 "		78	80							3	Cum. in		
11 "		78	81							4	horizon.		
12 "		78	80										
Mean.		79·83	81·04	77	92·06	92·62	30·005						

Lat. 14° 09′ S. Long. 163° 39′ W.

Lat. 13° 56′ S. Long. 166° 26′ W.

U. S. SHIP VINCENNES.

FROM EIMEO TO TUTUILA.

1839.	Lat. and Long.	THERMOMETERS.					Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
		Air.	Water.	Mast-head.	White Wool.	Black Wool.			Direc.	Force.			
Oct. 7.													
1 A. M.		79°	81°						S. Ed.	4	Clear.	b.	Course W. by S.
2 "		79	81										
3 "		79	81	78°			29·960	79° 75°					
4 "		79	81										
5 "		79	80										Hove to.
6 "													
7 "													
8 "													
9 "		83	80		93°	97°	30·020	80° 70°	S.E. by S.	3			
10 "		83	81		88	88					Cum. st.	c.	Roso Island in sight
11 "		81	81		102	103			S. E.				to the westward.
12 "		82	81		104·5	103					Cum.		
1 P. M.		80	82		93·5	92			S. S. E.			b. c.	
2 "		81	82										
3 "		81	82	86°									The Porpoise joined
4 "		81	82										company.
5 "		81	82										
6 "		80	81										
7 "		79	80										Course W. ¼ N.
8 "		78	80						S. E.				
9 "		79	80	78°			29·990	78° 75°			Clear.	b.	
10 "		79	82										
11 "		79	82						E. S. E.		Cum.	b. c.	
12 "		79	82										
Mean.		80·04	81·14	80·66	96·2	96·6	29·990						
Oct. 8.													
1 A. M.		79°	81°						E. S. E.	3	Clear.	b.	Course W. ¼ N.
2 "		79	80										
3 "		79	80	76°			29·990	78° 72°					
4 "		79	80						S. E.		Cum.	b. c.	
5 "		80	81										
6 "		80	81										Manua in sight.
7 "		81	81										
8 "		83	81										
9 "		86	82	86°			30·020	80° 70°					
10 "		86	82								Clear.	b.	Oloosinga and Ofoo in
11 "		86	82										sight.
12 "		85	82						S. S. E.				
1 P. M.		84	82										
2 "		88	81								Cum. in	b. c.	The Porpoise in com-
3 "		81	81	80°			29·960	81° 75°			horizon.		pany.
4 "		81	81										
5 "		83	82						S. E.				
6 "		80	82										
7 "		81	82										
8 "		81	82							4			
9 "		81	81	78°			30·000	80° 75°					
10 "		81	80										Course S. by W. ¼ W.
11 "		79	80										
12 "		79	80										
Mean.		81·54	81·12	80			29·992						

Lat. 14° 26′ S. Long. 168° 02′ W.

Lat. 14° 17′ S. Long. 169° 16′ W.

U. S. SHIP VINCENNES.

FROM EIMEO TO TUTUILA.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Diree.	Force.	Clouds.	Weather.	Remarks.
Oct. 9.												
1 A. M.			80°	81°				S. E^{d}.	4	Clear.	b.	Standing off and on.
2 "			80	81								
3 "			80	81	79°	29·990	78° 75°					
4 "			79	81								
5 "			80	81					3			
6 "			80	81					2			
7 "			81	82				E. S. E.				Manua, Oloosinga, and Ofoo in sight.
8 "			81	82								
9 "			82	83		30·020	80° 75°					
10 "			82	83								
11 "			81	82					3			
12 "	14° 13′	169° 29′	81	82				S. E.				
1 P. M.			82	82								
2 "			83	82								The Porpoise in company surveying.
3 "			82	82		29·990	80° 75°					
4 "			82	82				S.E. by S.				
5 "			82	82					2	Cum. st.	b. c.	Course W. S. W.
6 "			81	82								
7 "			80	81				S. S. E.				
8 "			80	81								Tutuila in sight.
9 "			81	81	86°	30·000	80° 75°	Calm.	0			
10 "			81	81				S. E.	1	Cum.	c.	
11 "			81	81								
12 "			81	81								
Mean.			80·95	81·58	82·5	30·000						
Oct. 10.												
1 A. M.			79°	80°				S. E.	1	Cum.	c.	Course W. S. W.
2 "			79	80				Calm.	0			
3 "			80	81	78°	29·980						
4 "			80	81								
5 "			80	81								
6 "			81	81								
7 "			83	81								
8 "			84	81								
9 "			84	82	82°	30·040	83° 73°	E. S. E.	1		c. p.	Tutuila, Manua, Oloosinga, and Ofoo, in sight.
10 "			79	82							d.	
11 "			80	81								
12 "	14° 11′	170° 06′	80	82							c.	
1 P. M.			82	83				Calm.	0			
2 "			82	83								
3 "			82	85	80°	29·950	80° 75°					
4 "			82	85								
5 "			81	81				E. S. E.	1			The Porpoise in company.
6 "			81	80						Clear.	b.	
7 "			80	81				Calm.	0			
8 "			80	81								
9 "			82	82	78°	30·020	78° 76°					
10 "			82	82								
11 "			82	82								
12 "			82	82								
Mean.			81·12	81·66	79·5	29·997						

U. S. SHIP VINCENNES.

FROM EIMEO TO TUTUILA.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 11.												
1 A. M.			80°	81°				S. E^{d}.	1	Cum. st.	c.	
2 "			80	81								
3 "			80	81	76°	29·980	78° 76°	Calm.	0			
4 "			80	81								
5 "			80	82								
6 "			81	82				N. E^{d}.	1			Island of Tutuila in sight.
7 "			82	82								
8 "			83	82								
9 "			83	82	83°	30·040	82° 74°		2			
10 "			84	82				North.	1			
11 "			84	82								
12 "			84	82								
1 P. M.												
2 "												
3 "			78	81	82°	29·980		N. N. W.				Anchored in Harbour of Pago Pago in 27 fathoms water.
4 "												
5 "			77	82				W^{d}.				
6 "			78	82						Cum.	b. c.	
7 "			80	82				Calm.	0			
8 "			82	82						Clear.	b. w.	
9 "			79	80	79°	30·040	78° 75°					
10 "								Var.	1			
11 "												
12 "								Calm.	0			
Mean.			80·83	81·61	80	30·010						
Oct. 12.												
1 A. M.			81°	81°				Calm.	0	Clear.	b. w.	
2 "			81	81								
3 "			78	81	82°	29·950						
4 "			78	81								
5 "			79	81								
6 "			79	81				Var.	1		b.	
7 "			80	82								
8 "			80	82								
9 "			82	82	80°	30·100	83° 68°					
10 "			83	82								
11 "			84	83				Calm.	0			Preparing Observatory and taking instruments on shore.
12 "			86	83								
1 P. M.			84	83								
2 "			84	83				S. E^{d}.	2	Cum.	c.	
3 "			82	83	81°	29·970	84° 68°					
4 "			82	82								
5 "			81	82								
6 "			81	82					5	Cum. st.	c. p.	
7 "			78	80								
8 "			78	81								
9 "			78	81	78°	30·050	78° 78°	E. S. E.	6		q. r.	
10 "			78	81					7			
11 "			78	81					6			
12 "			78	81					5			Rain ·5 in.
Mean.			80·54	81·66	80·25	30·017						

Off Pago Pago Harbour.

Pago Pago Harbour.

OBSERVATORY.

TUTUILA.

INSTRUMENTS USED ON SHORE.

Standard barometer.
Attached thermometer.
Thermometer, with its bulb covered with black wool.
Thermometer, " " lamp-black.
Thermometer, " " white wool.
Thermometer, " uncovered.
Thermometer four feet below the surface.
Hygrometer.
Temperature of water, and thermometer at mast-head, observed on board the U. S. Ship Vincennes.

1839.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Lamp-black.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Oct. 13.														
1 A. M.								80°			S. E^{d}.	5	Cum. st.	c. d.
2 "								80						
3 "								80	78°			4		
4 "								80						
5 "								80						c.
6 "								82						
7 "								82						
8 "								82				5	Cumulus	
9 "								82	80°		E. S. E.			
10 "	30·222	82·5°	82°	81°	81°	81°		81						
11 "	·222	83	84·5	86	85	83		81				6		
12 "	·222	83	86·5	88	88·5	83		81						
1 P. M.	·200	82	84·5	86	84	88		82			S. E.			
2 "	·200	81	84	85	84	82		82						
3 "	·164	82	80	81	80	80		82	81°		S. S. E.		Cir. cum.	
4 "	·162	81	81·5	81·5	81·5	80·5		82				5		
5 "	·172	80	81·5	80·5	81·5	80		82						
6 "	·172	80	80	79·5	79·5	79·5		82						b. c.
7 "	·200	79·5	79	79	79	79		82			S. E.			
8 "	·204	79·5	79	79	79	79		82					Cumulus	
9 "	·204	79	79	79	80	79		81	78°					
10 "	·200	79	79	79	80	79		81						
11 "	·200	79	79	79	79	79		81						
12 "	·200		79	79	79	79		81						
Mean.	30·196	80·71	81·2	81·4	81·4	80·73		81·29	79·25					

OBSERVATORY.

TUTUILA.

1839.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Lamp Black.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Oct. 14.														
1 A. M.	30·168	79°	79°	79°	79°	79°		80°			S. E.	5	Cumulus	c.
2 "	·150	79	79	78·5	79·5	79		80				6		
3 "	·150	79	79	78	79	79		80	76°					
4 "	·150	79	79	78	79	79		80						
5 "	·174	79	79	78	79	79		80			E. S. E.		Cir. stra.	
6 "	·186	78·5	79	79	79·5	79		80						
7 "	·186	78·5	79	79	79	79		80						
8 "	·186	80	80	80	80	80		80						
9 "	·200	83·5	84	81	83	83·5		80	80°			5		
10 "	·192	82	82	83·5	82·5	83·5		82						
11 "	·192	83	83	85·5	84·5	83		82						
12 "	·164	83	82	83	82	81		82		80° 74°				
1 P. M.	·162	81	81·5	82	81·5	80·5		81						
2 "	·138	81	82	81·5	82	80		81					Nimbus.	
3 "	·136	81	81·5	81	80	80		81	78°					
4 "	·136	80	80	80	80	80		81						c. d.
5 "	·142	79·5	79·5	79·5	79·5	79·5		80						
6 "	·148	78	79	78·5	79	78·5		80						r.
7 "	·210	79·5	80	80	80	80		80			S. E.	6		q.
8 "	·210	79	80	79	80	79·5		80					Cum. st.	c.
9 "	·210	79	79·5	79	79·5	79·5		80						
10 "	·230	79·5	79	78·5	79·5	79		80						
11 "	·212	79	79	79	79	79		79						p. d.
12 "	·210	78	75	76	74	77		79						
Mean.	30·176	79·91	80	79·83	79·95	79·41		80·33	78					
Oct. 15.														
1 A. M.	30·210	78°	76°	74°	78°	77°		80°			E. S. E.	6	Overcast.	d.
2 "	·204	79	79	79	79	79		80						
3 "	·162	78	78	78	78	78		80	77°					q.
4 "	·158	79	79	79	79	79		80						
5 "	·172	79	79	79	79	79		80						
6 "	·172	79	79	79	79	79		80				8	Cum. st.	
7 "	·174	79	79	79	79	79		80						
8 "	·210	80	80	80	80	80		80						
9 "	·224	80	81	81·5	81·5	80·5		81	78°	79° 72°				
10 "	·228	80	80·5	80	81	80·5		81						
11 "	·228	79·5	78	78	77	77	76°	81						d.
12 "	·188	80	80·5	80	80	79	76	81						p.
1 P. M.	·186	80·5	80·5	80·5	80·5	80·5	76	81						
2 "	·186	81	80	80·5	80	80	76	81						r. q.
3 "	·186	79·5	78	78	74·5	77	76	81	76°		East.			
4 "	·174	79·5	78	78	75·5	78	76	80						
5 "	·174	79	73	73	73	73	76	80				10		d.
6 "	·200	77	73	78	73	78	76	80					Nimbus.	c. q.
7 "	·204	78	78	78·5	78	79	76	80				8		
8 "	·250	78·5	78	78·5	74	78·5	76	80						
9 "	·260	79·5	79	79	73·5	79	76	80	76°					
10 "	·260	78·5	79·5	79	78·5	79·5	76	80						
11 "	·262	79	79	79	79	79	76	80				7		p. q.
12 "	·262	79	74	74	74	75	76	80		Rain·1in.				r. q.
Mean.	30·207	79·11	78·19	78·36	77·79	78·95	76	80·29	76·75					

OBSERVATORY.

TUTUILA.

1839.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Lamp-black.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Oct. 16.														
1 A. M.	30·262	78°	75°	75°	75°	75°	76°	80°			S. E.	8	Nimbus.	r.
2 "	·228	78	75	75	75	75	76	80						
3 "	·228	79	79	79	74	79	76	80	77°					q. p.
4 "	·228	79	79	79	74	79	76	80						
5 "	·228	79	79	79	74	79	76	80			E. S. E.			
6 "	·228	78·5	79	79	74	79	76	80						r.
7 "	·248	78·5	76	75	78	75	76	81						
8 "	·280	80	76	79	76	75·5	76	81						
9 "	·300	79	75	75	75	80	76	80	76°					
10 "	·268	79	75·5	80·5	75·5	80	76	80						
11 "	·258	79	78	79·5	75	75	76	80						
12 "	·250	79	75	74	75	74	76	80			S. E.	9		
1 P. M.	·212	79	75	74	75	77·5	76	80						
2 "	·204	79	75·5	79·5	76	77	76	80						
3 "	·290	79	75	79	76·5	76	76	80	76°					
4 "	·290	79	74	76	74	74	76	80						
5 "	·290	79	74	74	74	79	76	80						
6 "	·220	79	75	79	75	78	76	80						q. r.
7 "	·250	78·5	75	78	75	75	76	80						
8 "	·258	79	75	75	75	78	76	80			E. S. E.	8		
9 "	·264	79	76	76	76	79	76	80	77°					
10 "	·278	79	74	75	74	75	76	80						
11 "	·278	79	74	75	74	75	76	80						r.
12 "	·278	78·5	75	76	75	76	76	79		Rain·2 in.		7		
Mean.	30·255	78·83	75·79	76·45	75·37	76·83	76	80·04	76·5					
Oct. 17.														
1 A. M.	30·200	79°	74°	75°	74°	75°	76°	79°			E. S. E.	7	Nimbus.	p.
2 "	·200	79	76	79	76	79·5	76	79						
3 "	·210	78	75	75	75	75	76	79	76°					
4 "	·210	79	75	75	75	75	76	79						r.
5 "	·220	79	78	79	78	79	76	80						
6 "	·234	79	80	79·5	78	80	76	80						
7 "	·250	79	79·5	79·5	75	79·5	76	80						d.
8 "	·251	79	81	81	81	81	76	80						
9 "	·251	79	80	81	81	80	76	80	78°		S. E.	6	Cir. stra.	c.
10 "	·251	80	82	81	81	81	76·5	80						
11 "	·251	82	84	87	84·5	83	78	80						
12 "	·218	82·5	80	80	80	80	78	80			E. S. E.		Nimbus.	
1 P. M.	·192	81·5	82·5	83	82·5	81·5	76	80						
2 "	·200	80·5	81	81	81	80·5	76	80						
3 "	·172	80	76	76	76	76	76	80	80°			9		q. r.
4 "	·172	80	75	80	75	80	76	80				6		r.
5 "	·200	80	79	80	76	80	76	80						
6 "	·200	80	79	78	75	80	77	80					Cumulus	c.
7 "	·222	80	79	79	76	80	76·5	80						
8 "	·244	80	80	79·5	80	80	76	80						
9 "	·244	80	78	79	78	79	76	80	78°		East.	8	Nimbus.	q. r.
10 "	·244	79	73	74	73	74	76	80						
11 "	·250	79	75	75	76	76	76	80						
12 "	·260	78·5	73·5	79	76·5	79	76	80		Rain·3 in.				
Mean.	30·220	79·7	78·08	78·96	77·5	78·87	76·25	79·83	78					

OBSERVATORY.

TUTUILA.

1839.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Oct. 18.														
1 A. M.	30·186	79°	78°	79°	74°	80°	76°	80°			E^{d}.	8	Nimbus.	c.
2 "	·184	79	80	79	74	80	76	80						
3 "	·150	79	80	79	74	79	76	79	78°					
4 "	·150	79	79	79	79	79	76	79						
5 "	·172	79	79	79	79	79	76	80				6		
6 "	·174	79	81	80	81	81	76	80						b. c.
7 "	·200	80	81	81	81	80	76	80					Cum. st.	c.
8 "	·208	81	81	81·5	82	80·5	76	80						
9 "	·214	82	82·5	82·5	83	81	76	80	79°				Cumulus	
10 "	·202	83	82·5	86·5	84·5	83·5	77	80		81° 74°				
11 "	·200	83	81	82·5	81·5	81·5	77	81				5		d.
12 "	·184	83	82	82	81·5	81·5	78	81						c.
1 P. M.	·172	83	83·5	85	84	83	78	81						
2 "	·150	83	81·5	81·5	81·5	81	77·5	81						
3 "	·150	83	81·5	81·5	82·5	81·5	77·5	81						
4 "	·150	81·5	81	81	81	81	77	81						
5 "	·150	81	80	80	81	80	77	81			S. E.	4	Nimbus.	d.
6 "	·150	81	80	80	81·5	80	77	81						c.
7 "	·202	80	80	80	80	80	77	81						
8 "	·202	80	80	79·5	80	80	77	81						c. p.
9 "	·228	80	80	79	80	80	77	81	77°					
10 "	·216	80	78	79	78	79	76	81			E^{d}.	5	Cumulus	r.
11 "	·218	79·5	80	79	79	80	76	80						c.
12 "	·200	79·5	80	79	79	80	76	80		Rain·1in.				
Mean.	30·183	80·7	80·41	80·52	80·19	80·47	76·62	80·42	78					
Oct. 19.														
1 A. M.	30·172	80°	79°	79°	79°	79°	76°	80°			E. S. E.	4	Cumulus	d.
2 "	·104	79	79	79	79	79	76	80						c.
3 "	·140	79	79	79	79	79	76	80	77°					
4 "	·150	79	80	79·5	79·5	79	76	80						b. c.
5 "	·136	79	82	80	80	80	76	80						
6 "	·138	79	79	82	82	82	76	80						b.
7 "	·210	80	83	82	83	81	76	80						
8 "	·208	81	87	84·5	87·5	83	77	80			S. E.	3	Cir. cum.	c.
9 "	·210	82	90	90	91	84	77	80	82°					
10 "	·200	83	90	92	94	86	77	80						
11 "	·192	91	90	92	91·5	82	78	80						
12 "	·174	91	90	89	91	86	78	80		83° 76°				
1 P. M.	·156	90·5	95	93	98·5	87	78	80					Cumulus	
2 "	·128	88	95	94	101	88	78	81						
3 "	·124	86	88	86	93	84	78	82				2		
4 "	·134	83	83	83	84	83	78	81						
5 "	·136	83	80	80	81	80	78	81						
6 "	·150	80	79	79	79	79	78	81			E. S. E.	1	Nimbus.	c. p.
7 "	·151	80	77	77	77	77	78	81						d.
8 "	·150	80	77·5	77·5	78	78·5	77·5	81				2		c.
9 "	·160	80	77	77	77	77	77	80	77°					r.
10 "	·164	79	73	73	73	73	76	80			Var.	1	Cumulus	c.
11 "	·164	79	73	73	73	73	76	81						
12 "	·162	76	74	75	74	75	76	81		Rain·1in.	E^{d}.	2		
Mean.	30·158	81·98	82·48	82·31	79·8	80·52	77	80·42	78·66					

OBSERVATORY.

TUTUILA.

1839.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Oct. 20.														
1 A. M.	30·120	76°	74°	73°	74°	73°	76°	79°			Var.	1	Nimbus.	r.
2 "	·100	76	73	74	76	74	76	79						
3 "	·072	76	75	74	75	76	76	79	74°					
4 "	·052	76	77	79	75	79	76	79						
5 "	·064	76	78	79	79	79	76	80			S. E^{d}.	2		c.
6 "	·100	76	78	81	77·5	80	76	80					Cumulus	
7 "	·100	80	80	82	84	81	76	80		Rain·5 in.		3		
8 "	·154	85	87	87	90	83	78	80						
9 "	·156	86	95	92	97	86	78	80	80°					
10 "	·156	87	87	87	89	84	76	81						
11 "	·128	86·5	85	85	86	82	76	81				4		
12 "	·118	86·5	84	83	85	82	76	81			E. S. E.			
1 P. M.	·088	88	86	86	86	84	76	81		80° 76°				
2 "	·072	85·5	82·5	82·5	83·5	82	76	81						
3 "	·072	84	85	82	85	85	76	81	81°					
4 "	·072	83	82·5	81·5	82·5	81·5	79	81					Nimbus.	
5 "	·184	82·5	80·5	80·5	80·5	80·5	78	81						r.
6 "	·100	81	81	80·5	81·5	81	77	81						
7 "	·150	79·5	78	77	78	76·5	76·5	81						q. r.
8 "	·150	78	77	73	77	74·5	76·5	81						r.
9 "	·164	78	74	73	73	73	76	81	74°		S. E.			c.
10 "	·190	78	73	74	74	77	76	81				6		
11 "	·188	76	72	74	74	77	76	80						
12 "	·162	76	70	74	74	76	76	80		Rain·5 in.				r.
Mean.	30·116	80·68	79·77	79·75	80·68	78·21	76·37	80·37	77·25					
Oct. 21.														
1 A. M.	30·142	77°	78°	77°	73°	77°	76°	81°			E. S. E.	5	Cumulus	c.
2 "	·100	77·5	78	78	78	78	76	81						
3 "	·100	78	72	72	73	73	76	80						
4 "	·100	78	73	73	73	73	76	80						
5 "	·100	79	76	76	76	76	76	80				6		
6 "	·102	79	78·5	78·5	79	79	76	81						b. c.
7 "	·126	79	79	78	79	79	76	81					Cir. cum.	
8 "	·162	80	85	83	82	82	76·5	81						
9 "	·162	83	82	83	85	84	77	81	82°					
10 "	·162	83	87	86	91	85	77	81						d.
11 "	·150	87	86	85	89	83	77	81						b. c.
12 "	·136	90	87	86	89	84	77	81						
1 P. M.	·116	90	87	86	88	84	77	81						
2 "	·100	86	82	81·5	83	81	77	81					Cumulus	
3 "	·084	86	81·5	81·5	82·5	80	77	82	84°					
4 "	·100	86	80	81	80	80·5	77	81						
5 "	·100	81	78	78·5	78	79	76·5	81						
6 "	·100	80	76	79	76	80	76	81			S. E.	7		q. p.
7 "	·100	79·5	77	77	77	76	76	81						
8 "	·140	79	77	78	77	78	76	80						
9 "	·140	79	78	78	76	78	76	80	77°					
10 "	·150	79	78	79	79	79	76	80						r.
11 "	·138	77	76	77	77	77	76	80				6		
12 "	·128	77	79	79	79	79	76	80		Rain·1 in.				
Mean.	30·123	81·25	79·54	79·54	79·97	79·35	76 37	80·7	81°					

OBSERVATORY.

TUTUILA.

1839.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Oct. 22.														
1 A. M.	30·100	79°	79°	79°	80°	79°	76°	80°			S. E.	6	Nimbus.	c.
2 "	·100	79	79	79	79	79	76	80						d.
3 "	·100	79·5	78	78	79	78	76	80	77°					c.
4 "	·100	78	78	78	79	78	76	80						
5 "	·100	78	75	75	76	76	76	80						
6 "	·148	77	75	75	75	75	76	80						r.
7 "	·150	77	75	76	75	76	76	80						
8 "	·152	78	75	79	76	78	76	80						
9 "	·162	78	76	79	76	77	76	81					Cumulus	c.
10 "	·162	78	76	79	76	77	76	81	78°					
11 "	·162	78	76·5	76·5	77	76·5	76	81				5		
12 "	·140	78	81·5	81·5	82·5	80·5	76	81						
1 P. M.	·128	80	81	81·5	82	81	76	81						
2 "	·128	80	80	80	76	80	76	81						p.
3 "	·128	80	80	80	75	80	76	81	78°					
4 "	·128	80	77	80	77	79·5	76	81			Ed.			
5 "	·126	80	76·5	79·5	76·5	79·5	76	80				4		
6 "	·150	80	72	78	72	79	76	80					Nimbus.	
7 "	·158	80	79	80	76	80	76	80						r.
8 "	·200	80	77	77	76	77	76	80						
9 "	·194	79	77	77	76	76	76	80	78°					
10 "	·194	79	77	78	76	78	76	80			E. S. E.			
11 "	·184	79	80	79	77	80	76	80						d.
12 "	·150	79	79	79	76	79	76	80		Rain 1 in.				
Mean.	30·143	78·89	77·45	78·5	76·91	78·29	76	80·33	77·75					
Oct. 23.														
1 A. M.	30·151	79°	79°	79°	76°	79°	76°	80°			E. S. E.	4	Nimbus.	d.
2 "	·151	79	79	80	76	80	76	80						c.
3 "	·151	79	79	79	79	79	76	80	78°					
4 "	·160	79	79	79	80	78	76	80						
5 "	·162	79	79	79	80	79	76	81						
6 "	·162	79	81	80	82	80	76	81						r.
7 "	·180	79·5	81	80	82	80	76	81						
8 "	·214	80	78	77	78	77	76	81						
9 "	·122	81	79	79	80	80	77	81	77°					p.
10 "	·122	80	79	80	79	80	76·5	81						d.
11 "	·100	80	79	85	80	82	76·5	81			Ed.	3	Cumulus	b. c.
12 "	*·250	83	83	82	79	83	77	82						
1 P. M.	·245	83	82	82	80	82	77	82						
2 "	·200	80	80	82	79·5	81	77	81						
3 "	·200	79	80	80	79	80	77	81	80°					p.
4 "	·200	79	80	80	80	81	77	81						b. c.
5 "	·200	80	80	80	80	80·5	77	81						
6 "	·202	80	80	80	79	80	77.5	81				2	Nimbus.	p.
7 "	·204	80	80	79	78	80	76	81						
8 "	·204	80	80	80	78	80	76	80						
9 "	·236	80	80	80	78	80	76	80	78°					r.
10 "	·235	79	76	77	76	77	76	80						r.
11 "	·224	79	76	77	76	77	76	80			Calm.	0		
12 "	·224	79	76	76	76	76	76	80		Rain 1·9 in.				
Mean.	30·186	79·81	79·37	79·12	78·66	79·62	76·4	80·7	78·25					

* Position of barometer changed.

OBSERVATORY.

TUTUILA.

DAILY MEANS.

1839.	Barom.	THERMOMETERS.								Rain fell.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.	
Oct. 13th.	30·196	80·71°	81·2°	81·4°	81·4°	80·73°		81·29°	79·25°	
" 14th.	·176	79·91	80	79·83	79·95	79·41		80·33	78	
" 15th.	·207	79·11	78·19	78·36	77·79	78·95	76°	80·29	76·75	·1 in.
" 16th.	·255	78·83	75·79	76·45	75·37	76·83	76	80·04	76·5	·2 in.
" 17th.	·220	79·70	78·08	78·96	77·5	78·87	76·25	79·83	78	·3 in.
" 18th.	·183	80·70	80·41	80·52	80·19	80·47	76·62	80·42	78	·1 in.
" 19th.	·158	81·98	82·48	82·31	79·8	80·52	77	80·42	78·66	·1 in.
" 20th.	·116	80·68	79·77	79·75	80·68	78·21	76·37	80·37	77·25	·1 in.
" 21st.	·123	81·25	79·54	79·54	79·97	79·35	76·37	80·7	81	·1 in.
" 22d.	·143	78·89	77·45	78·5	76·91	78·29	76	80·33	77·75	1 in.
" 23d.	·186	79·81	79·37	79·12	78·66	79·62	76·4	80·7	78·25	1·9 in.
Mean.	30·187	80·14	79·29	79·52	78·93	79·29	76·33	80·43	78·13	4·3 in.

RESULTS.

BAROMETER.

Mean of 11 days,	30·187
Highest mean,	30·255
Lowest mean,	30·116
Highest point,	30·300
Lowest point,	30·052
Greatest rise,	30·104
Greatest fall,	30·112

THERMOMETER WITH BLACK WOOL.

Mean of 11 days,	79·29°
Highest mean,	82·48
Lowest mean,	75·79
Highest point,	95
Lowest point,	72

THERMOMETER WITH WHITE WOOL.

Mean of 11 days,	78·93°
Highest mean,	81·4
Lowest mean,	75·37
Highest point,	101
Lowest point,	73

THERMOMETER IN HOLE.

Mean of 9 days,	76·33°
Highest mean,	77
Lowest mean,	76
Highest point,	79
Lowest point,	76

THERMOMETER AT MAST-HEAD.

Mean of 11 days,	78·13°
Highest mean,	81
Lowest mean,	76·5
Highest point,	84
Lowest point,	74

THERMOMETER ATTACHED.

Mean of 11 days,	80·14°
Highest mean,	81·98
Lowest mean,	78·83
Highest point,	90
Lowest point,	76

THERMOMETER WITH BLACK BULB.

Mean of 11 days,	79·52°
Highest mean,	82·31
Lowest mean,	75·79
Highest point,	94
Lowest point,	73

THERMOMETER WITHOUT WOOL.

Mean of 11 days,	79·29°
Highest mean,	80·73
Lowest mean,	76·83
Highest point,	88
Lowest point,	73

TEMPERATURE OF WATER.

Mean of 11 days,	80·43°
Highest mean,	81·29
Lowest mean,	79·83
Highest point,	82
Lowest point,	79

RAIN FELL.

During 9 days 4·3 inches.
Other days cloudy.

U. S. SHIP VINCENNES.

PAGO PAGO HARBOUR, TUTUILA.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 24.												
1 A. M.			78°	80°				Calm.	0	Over-	r.	
2 "			78	80						cast.		
3 "			78	80	76°	30·130						
4 "			78	80							r.	
5 "			78	80				Var.	1	Nimbus		
6 "			78	80								
7 "			77	80				Calm.	0			Brought the instruments on board.
8 "			78	80								
9 "			78	80	76°	30·090						
10 "			80	80				S. E.	3	Cum.	c.	
11 "			80	80								
12 "			80	80								
1 P. M.			80	81								
2 "			80	81				Var.	2		r.	
3 "			79	80	77°	30·080						
4 "			78	80								
5 "			77	80				Calm.	0			
6 "			77	80								
7 "			76	80								
8 "			76	80						Cir.cum	b. c.	
9 "			79	80	78°	30·020						
10 "			79	80							q. p.	
11 "			75	80							c.	
12 "			74	80				E^{d}.	1	Clear.	b.	
Mean.			77·95	80·08	76·75	30·080						
Oct. 25.												
1 A. M.			77°	79°				E^{d}.	3	Clear.	b.	
2 "			77	79								
3 "			78	79	76°	30·100						
4 "			76	79								
5 "			77	79								
6 "			78	80				S. E^{d}.	2			
7 "			79	80								
8 "			80	80								
9 "			80	80	78°	30·010	79° 77°					
10 "			81	80								
11 "			82	80					4			Got under way.
12 "			82	80								
1 P. M.			82	81								
2 "			82	81				E^{d}.	3	Cir.cum	b. c.	Beating out of the harbour.
3 "			81	82	80°	29·960	85° 76°					
4 "			81	82								
5 "			81	82				E. N. E.	2			
6 "			81	82							c.	
7 "			80	82								
8 "			80	82								
9 "			80	82	79°	30·000	80° 75°		4	Nimbus		
10 "			80	82							c. p.	
11 "			79	82								
12 "			79	82								Tutuila in sight to the S. E.
Mean.			79·62	80·71	78·25	30·017						

Pago Pago Harbour.

Pago Pago Harbour.

U. S. SHIP VINCENNES.

FROM TUTUILA TO UPOLU.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 26.												
1 A. M.			76°	81°				N.E.	2	Nimbus	r.	Standing off and on.
2 "			76	81								
3 "			76	81	74°	29·980	78° 75°	Nd.				
4 "			76	81								
5 "			79	82								
6 "			79	82					1		c.	Upolu in sight to the northward and westward, Tutuila to the eastward.
7 "			80	82								
8 "			82	82				Calm.	0			
9 "			84	82	84°	30·000	81° 76°	Nd.	1	Over-cast.	m.	
10 "			84	82								
11 "			85	82					3			
12 "	13° 59′	171° 15′	84	83								
1 P. M.			83	82				N.N.E.			c.	
2 "			83	82								Steering to the northward and westward.
3 "			83	83	82°	29·930	82° 76°					
4 "			82	83								
5 "			82	83				N. E.	2	Nimbus	c. p.	
6 "			82	83								
7 "			81	82				Calm.	0			Upolu in sight.
8 "			81	82							c. l.	
9 "			80	81	78°	29·960					c. d. l.	Rain ·2 in.
10 "			80	81				North.	1		c. d. q. l.	
11 "			80	81					5			Steering to the westward.
12 "			78	81				N.N.W.	1			
Mean.			80·66	81·87	79·5	29·967						
Oct. 27.												
1 A. M.			78°	82°				NWbyN.	2	Nimbus	c. q. l.	Standing off and on.
2 "			78	82								
3 "			78	82	76°	29·960						
4 "								N.N.W.	1		d.	Upolu in sight.
5 "			76	81				Calm.	0			
6 "			77	81								
7 "			77	81								
8 "			79	82				S. Ed.	1	Cir.cum	c.	
9 "			79	82		30·000						
10 "			81	82				Calm.	0			
11 "			81	82								Beating up for the Harbour of Apia.
12 "	13° 49′	171° 36′	82	82				Nd.	3	Clear.	b.	
1 P. M.			85	83								
2 "			82	82								
3 "			82	82	82°	29·970		N. Ed.	4			
4 "			82	82						Nimbus	c.	
5 "			82	82								
6 "									3			
7 "			77	81							r.	
8 "			77	81								Standing off and on.
9 "			80	82	78°	30·000						Rain ·25 in.
10 "			80	82							c.	
11 "			80	82								
12 "			80	82								
Mean.			79·69	81·81	78·66	29·982						

U. S. SHIP VINCENNES.

FROM TUTUILA TO UPOLU.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 28.												
1 A. M.			80°	82°				E. N. E.	3	Cir. stra.	c.	Standing off and on the Harbour of Apia.
2 "			80	82								
3 "			80	82		29·970						
4 "			80	82								
5 "			80	82					2			
6 "			80	82				E[d].		Clear.	b.	Upolu in sight to the southward.
7 "			80	82								
8 "			81	82								
9 "			82	82	81°	30·020	82° 76°					
10 "			82	82						Nimbus	c.	
11 "			83	82								
12 "	13° 37′	171° 49′	83	82								
1 P. M.			80	82					3		q. p.	
2 "			79	82								
3 "			78	82	77°	29·930						
4 "			79	82							r.	Hove to.
5 "			79	82					2			
6 "			79	82				E. N. E.				
7 "												
8 "										Cir.cum	c.	
9 "			80	82	77°	29·980	80° 77°	East.	6		q. r.	
10 "			80	82								Standing off and on the harbour.
11 "			79	82					4		c.	
12 "			79	82								Rain ·2 in.
Mean.			80·12	82	78·33	29·975						
Oct. 29.												
1 A. M.			78°	82°				East.	4	Cir.cum	c.	Beating up for the harbour.
2 "			78	82								
3 "			78	82	77°	29·950	78° 74°					
4 "			78	82								
5 "			78	82								
6 "			78	82							c. d.	
7 "			76	82								
8 "			76	82					8			
9 "			79	82	77°	30·000					b. c.	
10 "			80	82								
11 "			83	82								
12 "			83	82								
1 P. M.			83	82					4	Nimbus	c. u.	
2 "			83	82								
3 "			82	82	86°	29·900	82° 80°	E. S. E.				
4 "			81	82								Anchored in Harbour of Apia, in 6 fathoms water.
5 "			81	82								
6 "			81	82								
7 "			81	82					2	Cum.	c. d.	
8 "			78	81				East.				The Peacock at anchor.
9 "			78	81	77°	30·000						
10 "			78	81					1		c.	
11 "			77	81								
12 "			77	81								Rain ·1 in.
Mean.			79·37	81·79	79·25	29·965						

Harbour of Apia.

U. S. SHIP VINCENNES.

HARBOUR OF APIA, UPOLU.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 30.												
1 A. M.			75°	81°				E. N. E.	3	Cir.cum	c.	
2 "			75	81								
3 "			74	78	72°							
4 "			74	78				Calm.	0			
5 "			74	79								
6 "			75	79				E. S. E.	1			
7 "			75	79								
8 "			76	79					2			
9 "			80	82	78°	30·000	82° 76°					
10 "	Harbour of Apia.		80	82				E^{d}.	1	Clear.	b.	Boats employed surveying.
11 "			85	83								
12 "			84	83								
1 P. M.			85	84								
2 "			83	84								
3 "			82	84	83°	30·000	82° 75°		2			
4 "			82	84								
5 "			82	84								
6 "			82	84								
7 "			80	82				Calm.	0			
8 "			78	82								
9 "			78	82	76°	30·020		Var.	1			
10 "			78	82							b. w.	
11 "			78	82				East.	2	Nimbus	c.	
12 "			78	82							c. u.	
Mean.			78·45	81·66	77·25	30·007						
Oct. 31.												
1 A. M.			76°	82°				E. S. E.	2	Nimbus	c. p.	
2 "			76	82								
3 "			72	80	71°	30·000						
4 "			72	80								
5 "			72	82								
6 "			72	82					1		p.	Boats absent surveying.
7 "			74	82								
8 "			77	82								
9 "			80	82	80°	30·020	82° 77°					
10 "	Harbour of Apia.		83	82				S. E.	3		c. p.	
11 "			84	82								
12 "			84	82							c.	
1 P. M.			84	82								
2 "			85	84					2	Clear.	b.	
3 "			85	84	84°	30·010						
4 "			85	84				E^{d}.				
5 "			85	84								
6 "			84	84						Nimbus	c.	
7 "			82	82							c. q. r.	
8 "			78	80								
9 "			76	82		30·010					d.	
10 "			74	82				Calm.	0	Clear.	b.	
11 "			74	81								
12 "			74	80								
Mean.			78·66	82·04	78·33	30·010						

U. S. SHIP VINCENNES.

HARBOUR OF APIA, UPOLU.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 1.												
1 A. M.			77°	80°				Calm.	0	Clear.	b.	
2 "			76	80								
3 "			76	81	74°							
4 "			76	81								
5 "			76	82				N. W.	1			
6 "			76	82								
7 "			77	82								
8 "			80	82				Calm.	0			
9 "			80	82	78°	30·020	82° 74°	Var.	1			
10 "			79	82								
11 "			80	82				Calm.	0			Sent the instruments on shore to the Observatory.
12 "			82	82								
1 P. M.			82	82								
2 "			82	82								
3 "			82	82	80°	29·980		Var.	1			
4 "			82	82						Cirrus.	b. c.	
5 "			82	82				S. E^{d}.	2			
6 "			80	82						Clear.	b.	
7 "			78	82								
8 "			78	82					1			
9 "			76	80	74°	29·980		Calm.	0		b. w.	
10 "			76	80								
11 "			76	82						Cirrus.	b. c. w.	
12 "			76	82								
Mean.			78·54	81·58	76·5	29·993						
Nov. 2.												
1 A. M.			72°	80°				S^{d}.	1	Cirrus.	b. c. w.	
2 "			72	80								
3 "			72	80	72°	29·980	80° 79°					
4 "			72	80							b.	
5 "			72	81						Clear.		
6 "			72	83					4			
7 "			74	82								
8 "			78	82								
9 "			81	83	81°	29·980	81° 76°					
10 "			81	83								
11 "			82	83				S. E.	3			The Flying-Fish arrived.
12 "			82	84								
1 P. M.			83	85								
2 "			84	86								
3 "			84	86	84°	29·980	82° 77°		2			Boats surveying.
4 "			83	86				E. N. E.				
5 "			83	86								
6 "			82	86								
7 "			78	86								
8 "			78	86				Var.	1			
9 "			77	82		29·980	80° 76°	Calm.	0			
10 "			77	82							b. w.	
11 "			74	84								
12 "			74	84				E. N. E.	1			
Mean.			77·54	83·3	79	29·980						

Harbour of Apia.

OBSERVATORY.

APIA, ISLAND OF UPOLU.

INSTRUMENTS USED ON SHORE.

Standard barometer.
Attached thermometer.
Thermometer, the bulb covered with black wool.
" " " white wool.
" " " lampblack.
" " uncovered.
Hygrometer.
Temperature of water, and thermometer at mast-head, observed on board U. S. Ship Vincennes.

1839.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	White Wool.	Black Bulb.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Nov. 3.													
1 A. M.							82°			S^{d}.	1	Clear.	b. w.
2 "							82						
3 "							82	72°	73° 73°	Calm.	0		
4 "							82						
5 "							82						b.
6 "							82						
7 "							82			E^{d}.	1		
8 "							82						
9 "							82	82°	80° 75°				
10 "							84			Calm.	0		
11 "							85						
12 "							86						
1 P. M.							86			N.W.	1		
2 "	29·966	91·5°	107°	104°	99°	97°	86						
3 "	·936	90	101	101	94	92	86	84°	82° 77°		2		
4 "	·936	90	99·5	99·5	94·5	93	86						
5 "	·936	90	100	98·5	96	93	86			Var.	1	Cirrus.	b. c.
6 "	·934	90	98	96	93	93	86						
7 "	·984	85	80	79	80	80	84						
8 "	·984	81	77	76·5	77	77	84					Cir.cum.	c.
9 "	30·000	80·5	76	76	76	76	84		80° 76°				
10 "	·002	80	76	76	76	76	84			Calm.	0		
11 "	·002	79	76	76	76	76	83						
12 "	·026	79	76	76	76	76	82						
Mean.	29·973	85·09	87·81	87	85·24	84·41	83·75	79·33					

OBSERVATORY.

APIA, ISLAND OF UPOLU.

1839.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	White Wool.	Black Bulb.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Nov. 4.													
1 A. M.	30·006	79°	76°	75·5°	78·5°	80°	84°			E. S. E.	1	Cumulus	c.
2 "	29·992	78	75	75	75	75	84						
3 "	·992	78	74	74·5	74	74	82	75°					
4 "	·964	77	73	73·5	73·5	73	82				3		b. c.
5 "	·984	75	72	72	72	72	82						
6 "	·984	75	73	74	74	73	82					Nimbus.	
7 "	30·026	76	77	78	78	77	82						
8 "	·075	85	111	106	99	93	83						
9 "	·180	92·5	104	101	99	92	83	80°	82° 76°				
10 "	·000	93	103	100·5	95·5	90	84			East.	2		c. d.
11 "	·000	95	97	96	92·5	90	84						
12 "	29·992	94	103	100·5	99	93	84						
1 P. M.	30·052	95	111	109	101	95	84						
2 "	·052	96·5	110	109	105	98	86					Nimbus.	c.
3 "	·050	96	107	108	99	94	86	82°	83° 77°				
4 "	·050	96	107	107	98	96	86			S. E.	1		
5 "	·074	97·5	105	105	96	93	86					Cumulus	b. c.
6 "	·074	95	95	94	92	92	86						
7 "	·074	86·5	80	80	78	79	84			E. S. E.			
8 "	·084	85	78	78	77·5	78	83						
9 "	·084	81·5	76	76	76	76	82	74°	85° 77°	Calm.	0	Clear.	b.
10 "	·084	79	75	75	75	75	82						
11 "	·084	78·5	74	74	74	74	82			E. S. E.	2	Nimbus.	c. p.
12 "	·084	78	74	74	74	74	82						
Mean.	30·043	88·41	88·75	87·75	85·62	83·58	83·54	77·75					
Nov. 5.													
1 A. M.	30·084	77·5°	75°	74·5°	74°	77·5°	82°			East.	2	Nimbus.	d.
2 "	·042	78	75	75	75	75	82						
3 "	·038	77	74	74	74	74	82	74°	74° 74°	Calm.	0		c.
4 "	·038	77	74	74	74	74	82						
5 "	·038	76	73	73	73	73	82			S^{d}.	1	Clear.	b.
6 "	·038	76	74	74	74	74	82						
7 "	·038	76	102	106	97	88	83			Calm.	0		
8 "	·038	76	102	106	94	88	83						
9 "	·124	90	102	106	94	88	83	81°		N. E.	2		
10 "	·124	90	102	96	93·5	88	84						
11 "	·128	93	94·5	96	94	90·5	84						
12 "	·116	94·5	101·5	98	97	92	84						
1 P. M.	·100	95	102·5	102·5	99	93							
2 "	·100	96	100	109	95·5	92				Calm.	0		
3 "	·100	96	106	105	100	98		87°					
4 "	·072	97	106	105·5	96	94							
5 "	·084	97	108	106	95·5	96							
6 "	·084	95	93	85	86	85				N^{d}.	1	Nimbus.	c.
7 "	·106	87	80	80	79	79							
8 "	·106	83	77	77	77	77							
9 "	·116	82	79·5	79	79	79·5		77°		E^{d}.	3		c. r.
10 "	·140	81	79	79	79	79							p.
11 "	·150	81	80	80	80	80							
12 "	·150	80	76	76	76	76							
Mean.	30·089	85·62	89	89	85·62	83·75	82·75	79·75					

OBSERVATORY.

APIA, ISLAND OF UPOLU.

1839.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	White Wool.	Black Bulb.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Nov. 6.													
1 A. M.	30·078	78°	74°	74°	77°	74°	82°			S. E.	3	Nimbus.	c.
2 "	·078	78	74	74	77·5	74	82						
3 "	·078	78	74	74	77·5	78	80	76°					
4 "	·082	78	74	74	77	77	81						
5 "	·160	78	74	74	77·5	77	82			E. S. E.	2		r.
6 "	·136	78	74	74	74·5	75	82						
7 "	·136	77	74	74	74·5	74	82						
8 "	·136	79	78	77	76·5	78	82						
9 "	·144	81·5	80·5	80·5	79·5	81	82	80°					p.
10 "	·144	85·5	78·5	78	78·5	78	82						
11 "	·130	85	82	82	80·5	84	83						
12 "	·126	89	81	81	90·5	87	84			East.			
1 P. M.	·126	89	82	84	92·5	89	84						r.
2 "	·100	90·5	82	93	92·5	89	84				4		
3 "	·000	98	82	80	93	86	83	80°					
4 "	.000	86	84	84	83	81	83						
5 "	·000	86	84	84·5	83	83	83						
6 "	·100	83	80	80	83	80	83			E. N. E.			
7 "	·118	81	79	79	80	79	82						
8 "	·118	81	78	78	79	78	82						
9 "	·118	79	77	77	78	77	82	74°		East.	6		
10 "	·118	78	76	76	77	76	82						
11 "	·118	78	76	76	76	78							r. t. l.
12 "	·118	78	76	76	76	78			Rain ·5 in.	E. S. E.	3		
Mean.	30·102	82·16	78·25	78·5	80·59	79·62	82·36	77·5					
Nov. 7.													
1 A. M.	30·080	77·5°	75°	75°	77°	78°	82°			East.	3	Nimbus.	r. t. l.
2 "	·085	77·5	75	75	77·5	78	82						
3 "	·085	77·5	75	75	76	77	82	72°		S. E.			
4 "	·100	77·5	75	75	75	75	82						
5 "	·100	77·5	75	75	79	75	82						
6 "	·100	78	76	76	76	76	82			East.	4		p.
7 "	·100	79	77	77	79	79	82						
8 "	·118	82	78	78·5	81	80	82						
9 "	·188	83	80	82·5	84	83	82	78°					
10 "	·188	82	78	78·5	78	80	83						
11 "	·188	82	78	78	79	79	83						
12 "	·188	82	79	79	80	80·5	82						r. t.
1 P. M.		80	79	79	80	80	82			E. S. E.	3		
2 "		80	78	77·5	76	78	82						
3 "		80·5	77·5	76·5	77	79	82	76°					
4 "	30·100	80·5	77	77	81·5	80·5	82						
5 "	·100	80	77	76	79	79	82			Var.	1		
6 "		80	77	76	79	79	82			Calm.	0		c.
7 "	30·136	79	77	75	79	79	82			E. S. E.	2		
8 "	·184	79	77·5	75·5	75	75	82						
9 "	·184	78	76	76	76	76	82				3		r. q. t. l.
10 "	·184	77·5	75	75	75·5	75·5	82			East.	2		
11 "	·184	77·5	75	75	75	75·5	81						
12 "	·108	77	75	74·5	75	75·5	81		Rain ·4 in.				r. t. l.
Mean.	30·135	79·33	76·7	76·54	77·87	78	82	75·33					

OBSERVATORY.

APIA, ISLAND OF UPOLU.

1839.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	White Wool.	Black Bulb.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Nov. 8.													
1 A. M.	30·138	77°	75°	74·5°	75°	76°	82°			Calm.	0	Cir. cum.	p.
2 "	·138	77	75	75	76	76	82						
3 "	·138	77	75	75	76	76	82	77°					
4 "	·138	77	75	75	76	76	82						
5 "	·138	77·5	75	75	76	76	82						c.
6 "	·168	77	76	75·5	77	77	82						
7 "	·168	77	77	75	78·5	78	82						
8 "	·182	77	82·5	78	81	81	82			E^{d}.	1		p.
9 "	·182	77	82·5	78	81	81	82	81°					
10 "	·182	86	86	85	84	82	82						
11 "	·182	88	88	87	86	84	82						
12 "	·182	93	99	100	96	93	82						
1 P. M.	·134	93	98	101·5	93	90	84				3		c.
2 "	·134	92	92	97	90	89	84						
3 "	·124	92	90	92	89	89	84	82°	85° 75°				
4 "	·124	91	89	91	88	88	84				5		
5 "	·136		86	85	85	86	83						
6 "	·136		80	80	80	80	83					Stratus.	
7 "	·136	82	79	79	79	79	82			East.			
8 "	·146	81	79	79	80	80	82				4		
9 "	·146	81·5	79	79	80	80	82	78°				Cir. stra.	
10 "	·156	80	78	77·5	78	79	81						
11 "	·156	79	77·5	77·5	78	78	81						
12 "							80						
Mean.	30·151	82·47	82·65	82·21	81·82	81·47	82·25	79·5					

DAILY MEANS.

1839.	Barom.	THERMOMETERS.						
		Att.	Black Wool.	White Wool.	Black Bulb.	No Wool.	Water.	Mast-head.
Nov. 3d.	29·973	85·09°	87·81°	87°	85·24°	84·41°	83·75°	79·33°
" 4th.	30·043	88·41	88·75	87·75	85·62	83·58	83·54	77·75
" 5th.	·089	85·62	89	89	85·62	83·75	82·75	79·75
" 6th.	·102	82·16	78·25	78·5	80·59	79·62	82·36	77·5
" 7th.	·135	79·33	76·7	76·54	77·87	78	82	75·33
" 8th.	·151	82·47	82·65	82·21	81·82	81·47	82·25	79·5
Mean.	30·082	83·84	83·86	83·5	82·79	80·43	82·77	78·19

OBSERVATORY.

APIA, ISLAND OF UPOLU.

RESULTS.

BAROMETER.

Mean of 6 days,	30·082
Highest mean,	30·151
Lowest mean,	29·973
Highest point,	30·188
Lowest point,	29·934

THERMOMETER ATTACHED.

Mean of 6 days,	83·84°
Highest mean,	88·41
Lowest mean,	79·33
Highest point,	97·5
Lowest point,	75

THERMOMETER WITH BLACK WOOL.

Mean of 6 days,	83·86°
Highest mean,	89
Lowest mean,	76·7
Highest point,	111
Lowest point,	72

THERMOMETER WITH BLACK BULB.

Mean of 6 days,	82·79°
Highest mean,	85·62
Lowest mean,	77·87
Highest point,	105
Lowest point,	72

THERMOMETER WITH WHITE WOOL.

Mean of 6 days,	83·5°
Highest mean,	89
Lowest mean,	76·54.
Highest point,	109
Lowest point,	72

THERMOMETER WITHOUT WOOL.

Mean of 6 days,	80·43°
Highest mean,	84·41
Lowest mean,	79·62
Highest point,	98
Lowest point,	72

TEMPERATURE OF WATER.

Mean of 6 days,	82·77°
Highest mean,	83·75
Lowest mean,	82
Highest point,	86
Lowest point,	80

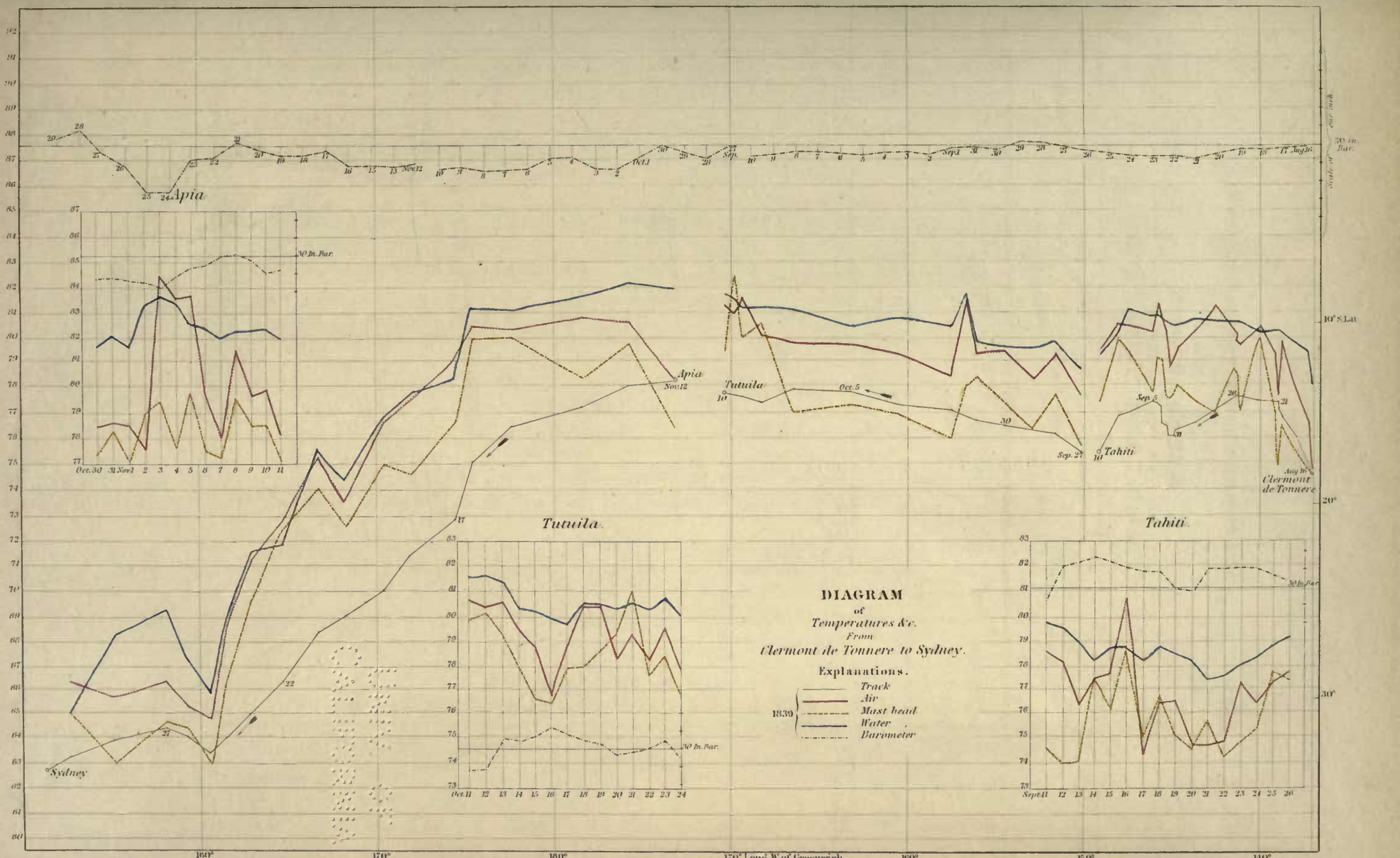
THERMOMETER AT MAST-HEAD.

Mean of 6 days,	78·19°
Highest mean,	79·75
Lowest mean,	75·33
Highest point,	87
Lowest point,	72

U. S. SHIP VINCENNES.

HARBOUR OF APIA, UPOLU.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 9.												
1 A. M.			76°	82°				E. S. E.	1	Cirrus.	c.	
2 "			75	82								
3 "			75	82	74°							
4 "			75	82								
5 "			75	82								
6 "			76	82				East.				
7 "			76	82								
8 "			81	82								
9 "			82	82	80°	30·100	80° 74°					
10 "			84	82				S. E.	3	Clear.	b.	
11 "			84	83								
12 "			88	84								Brought the instruments on board.
1 P. M.			86	84								
2 "			84	84								
3 "			83	84	83°	30·100	84° 75°					
4 "			82	84					2			
5 "			82	84								
6 "			81	84								
7 "			80	83								
8 "			80	83				Calm.	0			
9 "			78	83	77°	30·130	78° 74°				b. w.	
10 "			77	83								
11 "			76	83								
12 "			75	82						Cir.cum	b. c.	
Mean.			79·62	82·83	78·5	30·110						
Nov. 10.												
1 A. M.			74°	82°				Calm.	0	Cum.	b. c.	
2 "			74	82				East.	1			
3 "			74	82	72°	30·040	74° 70°					
4 "			74	82								
5 "			74	82								
6 "			74	82				S^{d}.	1	Clear.	b.	
7 "			80	82								The Porpoise arrived.
8 "			81	82					2			
9 "			82	82	81°	30·020	80° 75°					
10 "			83	82				E. S. E.		Cum.	b. c.	
11 "			84	82								
12 "			85	83								Went to sea, the squadron in company.
1 P. M.			84	83								
2 "			84	83					4			
3 "			84	83	84°	30·000	81° 76°					
4 "			84	83								
5 "			82	83						Cir.cum	c.	
6 "			81	83					3			Savaii in sight to the southward.
7 "			80	83								
8 "			80	82								Course W. N.W.
9 "			80	82	77°	30·100	81° 76°					
10 "			80	82								
11 "			80	82								
12 "			80	82				N. E.	4		q. r. u.	
Mean.			79·91	82·33	78·5	30·040						


Apia
30 In. Bar.
Oct. 30 31 Nov. 1 2 3 4 5 6 7 8 9 10 11
Apia
Nov. 12
Tutuila
Oct. 5
30
Sep. 27
Tahiti
Sep. 5
26
21
Aug. 16
Clermont de Tonnere
Tutuila.
Oct. 11 12 13 14 15 16 17 18 19 20 21 22 23 24
30 In. Bar.
Tahiti.
Sept. 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
30 In. Bar.
Sydney
17
22
21
DIAGRAM
of
Temperatures &c.
From
Clermont de Tonnere to Sydney.
Explanations.
1839
Track
Air
Mast head
Water
Barometer
Scale of one inch = 30 m. Bar.
16° S. Lat.
20°
30°
150° 170° 180° 170° Long. W. of Greenwich 160° 150° 140°

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CALIFORNIA

U. S. SHIP VINCENNES.

FROM UPOLU TO SYDNEY, N. S. W.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 11.												
1 A. M.			74°	81°				Var.	1	Nimbus	r.	Course W. N.W.
2 "			74	81								
3 "			74	81	72°	30·020						
4 "			74	81				S. E.	2			
5 "			76	82							c.	
6 "			76	82								West end of Savaii, bearing S. by E.
7 "			78	82								
8 "			81	82							d.	Course W. by S.
9 "			83	83	82°	30·160	78° 72°					
10 "			81	83					1			
11 "			82	83				Calm.	0			
12 "	13° 06′	173° 10′	81	83								
1 P. M.			81	82				East.	1		c.	
2 "			81	82				N. N. W.	3			
3 "			80	82	76°	29·980	80° 75°	East.	2			
4 "			80	82				S. E.				Rain ·95 in.
5 "			78	82				South.	3			
6 "			76	82							r.	
7 "			76	82						Cum. st.	c.	Course W. S.W.
8 "			78	82								
9 "			79	82	76°			S. S. E.				
10 "			76	82							c. l.	
11 "			78	82								
12 "			78	82								
Mean.			78·12	82	76·5	30·053						
Nov. 12.												
1 A. M.			80°	82°				S. E.	4	Cum. st.	c.	Course W. S.W.
2 "			80	82								
3 "			80	82	76°	30·140	80° 72°					
4 "			80	82								
5 "			80	82								
6 "			79	82								
7 "			80	82								
8 "			81	82					6			
9 "			83	83	82°	30·040	81° 76°					
10 "			83	83								
11 "			84	83				S. E. by S.				Wallis' Island in sight.
12 "	13° 33′	175° 53′	82	83							p.	
1 P. M.			80	82					5			The squadron in company.
2 "			81	82						Cum.		
3 "			82	82	81°	29·920	80° 75°	S. E.				
4 "			82	82							c.	
5 "			80	82								Lost sight of Wallis' Island.
6 "			80	82				S. S. E.	6			
7 "			80	82								
8 "			80	82								
9 "			80	82	80°	30·000	80° 75°	S. E.				
10 "			80	82								
11 "			80	82					7		c. l.	
12 "			80	82								
Mean.			80·7	82·17	79·75	30·025						

U. S. SHIP VINCENNES.

FROM UPOLU TO SYDNEY, N. S. W.

1839.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 13.												
1 A. M.			80°	82°				S. E.	6	Cum. st.	c. l.	Course S.W. by W.
2 "			80	82								
3 "			80	82	76°	30·020			7			
4 "												
5 "			80	82								
6 "			81	82					5			Hoorn Island in sight.
7 "			82	83							b. c.	
8 "			82	83								
9 "			82	82	81°	30·000	80° 76°					
10 "			82	82				S. S. E.				
11 "			83	82								
12 "	14° 31′	178° 38′	84	82					6	Clear.	b.	
1 P. M.			83	82								
2 "			82	82								
3 "			81	81	78°	29·960	80° 75°			Cum. st.	b. c.	Course S.W. by W. ½ W.
4 "								S. E.				
5 "			81	81								
6 "			81	81								
7 "			80	82								
8 "			80	82								
9 "			80	81	78°	30·090	80° 76°					
10 "			80	81							c. l.	
11 "			79	81								
12 "			79	81						Nimbus	c. u. l.	
Mean.			80·91	81·76°	78·25	30·017						
Nov. 15.												
1 A. M.			79°	81°				S. E.	6	Nimbus	r. l.	Course S.W. by W. ½ W.
2 "			79	81								
3 "			79	81								
4 "			79	81						Cum. st.	c.	
5 "			79	81								
6 "			79	81							c. u.	
7 "			80	81								
8 "			80	81								Passing from W. to E. Longitude, drop one day.
9 "			81	81	82°	30·000	80° 70°					
10 "			81	81				E. S. E.				
11 "		East.	82	81								Squadron in company.
12 "	15° 40′	177° 40′	82	81					5		c.	
1 P. M.			83	82								
2 "			83	82					6			
3 "			82	82	80°	29·980	80° 74°					Course S. S.W.
4 "			82	82						Clear.	b.	
5 "												
6 "												
7 "			81	81								
8 "			81	81								
9 "			80	81	78°	30·080				Cir.cum	b. c.	
10 "			80	80								
11 "			79	80								
12 "			79	80								
Mean.			80·41	81·04	80	30·020						

U. S. SHIP VINCENNES.

FROM UPOLU TO SYDNEY, N. S. W.

1839.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 16.												
1 A. M.			79°	80°				E. S. E.	6	Nimbus	c.	Course S. S. W.
2 "			79	80								
3 "			80	80	78°	30·000						
4 "			80	80								
5 "			79	81								
6 "			79	82							p.	
7 "			80	82							c.	
8 "			81	81								
9 "			83	81	84°	30·060	86° 76°			Cirrus.		
10 "			83	81								
11 "			83	81				East.		Clear.	b.	
12 "	17° 47′	175° 52′	84	81					5			The Peacock in company.
1 P. M.			81	82								
2 "			81	82								
3 "			81	82	80°	30·000	81° 76°					Course S. by W.
4 "			81	82					7	Cum. st.	b. c.	
5 "			81	82								
6 "			80	82				E. S. E.				
7 "			80	82								
8 "			80	82					6			
9 "			80	80	78°					Cum.		
10 "			80	80								
11 "			78	80								
12 "			78	80						Clear.	b.	
Mean.			80·46	81·08	80	30·020						
Nov. 17.												
1 A. M.			78°	81°				E. S. E.	6	Clear.	b.	Course S. by W.
2 "			78	81								
3 "			78	81	78°	30·120	78° 75°					
4 "			78	82								
5 "			78	78								
6 "			78	78								
7 "			78	78								
8 "			79	78						Cirrus.	b. c.	
9 "			80	81	78°	30·120	80° 69°	E. by S.				
10 "			81	82					5			
11 "			81	82								
12 "	20° 45′	174° 32′	78	77					6	Clear.	b.	
1 P. M.			78	78								Course S.W. by S.
2 "			79	78								
3 "			80	80		30·060	78° 68°	E. S. E.				
4 "			80	80								Birds flying round the ship.
5 "			78	78								
6 "			77	78								
7 "			77	78								
8 "			77	78								
9 "			76	78	74°	30·140	76° 73°		7	Hazy.	b. m.	
10 "			76	77								
11 "			76	77								Halo round the moon, 33° in diameter.
12 "			76	77								
Mean.			78·12	79	76·66	30·110						

U. S. SHIP VINCENNES.

FROM UPOLU TO SYDNEY, N. S. W.

1839.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 18.												
1 A. M.			77°	78°				East.	6	Clear.	b. w.	Course S.W. by S.
2 "			77	78								
3 "			77	78	72°	30·100	75° 69°					
4 "			76	78								
5 "												
6 "								E. N. E.			b.	
7 "												Employed surveying Matthew's Rock.
8 "												
9 "			79	78		30·130	80° 75°					
10 "			79	78								
11 "			80	78								
12 "	22° 41′	171° 55′	80	78								
1 P. M.			79	78				N.E.byE.	5			
2 "			79	78								The Peacock in company.
3 "			80	78	78°	30·030	80° 66°					
4 "			79	78								
5 "			77	77								
6 "			77	77								Course S.W. by S.
7 "			77	77				N. E.				
8 "			76	77								
9 "			76	77		30·060	76° 74°			Cum. st.	b. c.	
10 "			76	77	74°							
11 "			76	77								
12 "			76	77								
Mean.			77·65	77·6	74·66	30·080						
Nov. 19.												
1 A. M.			76°	78°				N. E.	5	Cir. stra.	b. c.	Course S.W. by S.
2 "			76	78								
3 "			76	78	75°	30·080	76° 70°	N. N. E.				
4 "			76	78								
5 "			77	77								Snipe and tern flying about the ship.
6 "			76	77								
7 "			77	78				North.				
8 "			76	77								
9 "			77	77	74°	30·080	76° 73°					
10 "			77	77								
11 "			78	77				N. N. W.		Clear.	b.	
12 "	24° 43′	169° 41′	79	77								
1 P. M.			79	77								Temp. water at 200 fathoms, 62°.
2 "			79	77					4			
3 "			80	77	76°	30·000	77° 73°					
4 "			78	77								
5 "			76	77						Cum. st.	c.	
6 "			76	76								The Peacock in company.
7 "			76	75				N. W.				
8 "			76	75								
9 "			75	75		30·140	76° 69°		3			
10 "			74	74								
11 "									2			
12 "												
Mean.			76·82	76·77	75	30·075						

U. S. SHIP VINCENNES.

FROM UPOLU TO SYDNEY, N. S. W.

1839.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 20.												
1 A. M.			75°	74°				N.W.	3		c.	Course S.W. by S.
2 "			75	74								
3 "			74	74	72°	30·020	75° 73°			Nimbus		
4 "			73	74				W.N.W.				
5 "			71	74					2		c. p.	
6 "			72	74								
7 "			73	74				Calm.	0			
8 "			74	74								
9 "			74	74	75°	30·100	76° 66°	S^{t}.	1		c.	Temperature of water at 600 fathoms, 50°.
10 "			74	74								
11 "			73	74				S. S. E.				
12 "	25° 59′	168° 16′	73	74					3			
1 P. M.			77	76								
2 "			76	75				S. E.				
3 "			74	75	73°	30·120	75° 64°		1		r.	Saw several tropical birds.
4 "			72	74								Rain ·02 in.
5 "			72	74				N. E.	2		p.	
6 "			72	74					3			
7 "			73	75				E. S. E.		Cum. st.	c.	
8 "												
9 "			74	75	71°	30·120					p.	The Peacock in com-
10 "			74	75							c.	pany.
11 "			73	75								
12 "			73	75				East.				
Mean.			73·52	74·40	72·75	30·090						
Nov. 21.												
1 A. M.			74°	75°				E. N. E.	3	Cum. st.	c.	Course S.W. by S.
2 "			74	75								
3 "			74	75	72°	30·100	72° 68°					
4 "			74	75								
5 "			74	75						Clear.	b.	
6 "			75	75				N. E.				
7 "			75	75								
8 "			75	75								
9 "			76	78	77°	30·220	80° 74°					
10 "			78	78					2			
11 "			79	78								
12 "	27° 10′	166° 43′	80	78								Birds flying about.
1 P. M.			78	75				E. N. E.				
2 "			78	75						Cir. stra.	b. c.	
3 "			77	75	75°	30·120	76° 74°					
4 "			76	75					3			The Peacock in com-
5 "			76	75								pany.
6 "			75	75								
7 "			75	75						Clear.	b.	
8 "			75	74								
9 "			74	74	72°	30·140	74° 73°					
10 "			74	74						Cir. stra.	b. c.	
11 "			74	74								
12 "			74	74								
Mean.			75·16	75·29	74	30·145						

U. S. SHIP VINCENNES.

FROM UPOLU TO SYDNEY, N. S. W.

1839.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 22.												
1 A. M.			73°	75°				N. E.	4	Cum. st.	c.	Course S.W. by S.
2 "			73	75								
3 "			73	75	77°	30·080	74° 74°			Clear.	b. w.	
4 "			73	75						Cum.	c.	
5 "			72	71								
6 "			72	71				North.			c. m.	
7 "			72	71					5			
8 "			73	70				N.N.W.				
9 "			74	71	72°	30·060	76° 70°				c.	
10 "			74	71					6			The Peacock in company.
11 "			75	71						Nimbus		
12 "	29° 07′	164° 38′	75	72								
1 P. M.			75	72							r.	
2 "			75	72								
3 "			75	72		30·050			7			
4 "			73	72							d. m.	
5 "			72	71								
6 "			70	71				N.W.				
7 "			71	70								
8 "			70	70						Cum. st.	c.	
9 "			72	72	68°	30·000	71° 67°					
10 "			72	72					6			
11 "			72	72								
12 "			72	72					5			
Mean.			72·83	71·91	72·33	30·047						
Nov. 23.												
1 A. M.			70°	71°				N.W.	4	Cum. st.	b. w.	Course S.W. by S.
2 "			70	71								
3 "			70	70	68°	30·000	70° 66°	W.N.W.				
4 "			69	70								
5 "			69	70					3	Clear.	b.	Steering to the southward.
6 "			69	70				West.				
7 "			69	70					2			Temperature of water at 100 fathoms, 63·5°; at 200 fathoms, 59°; at 300 fathoms, 55·5°.
8 "			70	70				S.W.		Cir. stra.	b. c.	
9 "			71	71	68°	30·020	72° 64°					
10 "			72	71					1			
11 "			73	72				W.S.W.				
12 "	30° 51′	163° 09′	74	72								
1 P. M.			74	73								
2 "			74	73								
3 "			76	74	75°	30·020	79° 67°	West.				The Peacock in company.
4 "			78	75				Calm.	0	Clear.	b.	
5 "			74	74								
6 "			73	74				N.W.	2			
7 "			70	72								Course S.W. by S.
8 "			70	72					3			
9 "			69	70	68°	30·020	68° 66°					
10 "			69	69				Nd.	2			
11 "			69	70								
12 "			69	70								
Mean.			71·29	71·41	69·75	30·015						

U. S. SHIP VINCENNES.

FROM UPOLU TO SYDNEY, N. S. W.

1839.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 24.												
1 A. M.			69°	70°				N^{d}.	3	Clear.	b.	Course S.W. by S.
2 "			69	70								
3 "			69	70	67°	29·980	68° 60°					
4 "			69	70					5	Nimbus	c.	
5 "			69	70								
6 "			69	70								
7 "			69	70					7		c.m.	
8 "												
9 "			71	71		29·930	72° 62°					
10 "			71	70							c.m.u.	
11 "			71	70								Course W.S.W.
12 "	32° 11′	161° 19′	71	70								
1 P. M.			70	69								Peacock in company.
2 "			70	69								
3 "			70	68	68°	29·800	Rain.	N.N.W.	8		d.	
4 "			70	68							c.u.	
5 "			70	68				N.W.		Over-cast.		Steering to the southward.
6 "			70	68								
7 "			70	68					9		c.q.r.l.	
8 "			69	68				W.N.W.				
9 "			66	68	64°	29·620	Rain.	West.				
10 "			64	66							r.l.t.	
11 "			64	66					11			
12 "			64	66								
Mean.			68·87	68·82	66·33	29·832						
Nov. 25.												
1 A. M.			65°	65°				W.S.W.	10	Over-cast.	r.l.t.	Steering to the southward.
2 "			65	65								
3 "			65	65	62°	29·680	62° 54°			Cum. st.	c.l.t.	
4 "			65	65					9			
5 "			66	66								
6 "			66	66							b.c.	
7 "			65	66					10			
8 "			65	66						Clear.	b.	
9 "			66	66	65°	29·880						
10 "			66	66								
11 "			66	66				S.W.		Nimbus	b.c.	
12 "	32° 56′	160° 21′	67	66								
1 P. M.			65	66								
2 "			64	66								
3 "			65	66	63°	29·780			9		d.	
4 "			65	66				W.S.W.			c.	Saw several albatross.
5 "			65	66								
6 "			65	66						Cum. st.	c.q.	Steering to the northward and westward.
7 "			64	66								
8 "			63	66								Heavy sea from the westward.
9 "			63	66	62°	29·950	61° 59°	S.W.				
10 "			63	66					8			
11 "			64	66								
12 "			63	66								
Mean.			64·83	65·83	63	29·822						

U. S. SHIP VINCENNES.

FROM UPOLU TO SYDNEY, N. S. W.

1839.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 26.												
1 A. M.			63°	65°				S.W.	7	Cum. st.	c.	Steering to the westward.
2 "			63	65								
3 "			63	65	61°	29·900						
4 "			63	65								
5 "			63	66					6		b. c.	
6 "			64	66								Pyramid Rock and Lord Howe's Island in sight.
7 "			66	66								
8 "			65	66					5			
9 "			65	66	70°	30·000	68° 64°	S. S.W.				
10 "			65	66								
11 "			65	66						Clear.	b.	
12 "	31° 56′	159° 11′	65	66								Peacock in company. Albatross and other birds about the ship.
1 P. M.			68	69					4			
2 "			68	69								
3 "			68	69	65°	30·000						
4 "			68	69								
5 "			68	69								
6 "			67	68				South.				Heavy sea from the S. W.
7 "			66	67								
8 "			66	67								
9 "			65	69	61°	30·050			2			
10 "			64	70							b. w.	
11 "			64	69								
12 "			64	69				Calm.	0			
Mean.			65·25	67·16	64·25	29·988						
Nov. 27.												
1 A. M.			63°	66°				Calm.	0	Clear.	b. w.	
2 "			62	66								
3 "			64	66	63°	30·000	68° 62°	S.W.byS.	1			Steering to the westward.
4 "			64	66							b.	
5 "			65	66				S. by W.	2			
6 "			66	66								Pyramid Rock in sight to the N. E.
7 "			66	68								
8 "			68	69					3			
9 "			71	72		30·080	70° 60°	South.				Number of birds round the ship.
10 "			68	72								
11 "			68	72								
12 "	31° 28′	157° 54′	68	72				S. S. E.		Cum.	b. c.	
1 P. M.			68	70								Course S.W. by W.
2 "			68	70					4			
3 "			68	70	66°	30·060	68° 58°					Saw several fin-back whales.
4 "			68	70								
5 "			68	71								
6 "			67	71								
7 "			66	70								
8 "			65	70						Cum. st.	c.	
9 "			66	70	65°	30·100	66° 60°					
10 "			66	70					5			
11 "			66	70								
12 "			66	69								
Mean.			66·36	69·25	64·66	30·060						

U. S. SHIP VINCENNES.

FROM UPOLU TO SYDNEY, N. S. W.

1839.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 28.												
1 A. M.			66°	69°				S. S. E.	5	Clear.	b. m.	Course S.W. by W.
2 "			66	69								
3 "			66	69	61°	30·100	65° 60°					
4 "			65	69								
5 "			65	69				S. E.				
6 "			65	69								
7 "			67	68							b.	
8 "			65	69					6			Petrel and albatross flying around.
9 "			66	70	65°	30·200	68° 58°					
10 "			67	70								
11 "			69	68				E. S. E.				Peacock in company.
12 "	32° 15′	155° 07′	67	68								
1 P. M.			66	68					5			Course S.W. ½ W.
2 "			65	67								
3 "			67	67	64°	30·200	68° 60°					
4 "			67	67				East.		Cirrus.		Sounded with 100 fathoms; no bottom.
5 "			64	66					4			
6 "			64	68								
7 "			66	68					3			
8 "			66	68						Clear.		
9 "			65	68	62°	30·200	64° 61°	E. N. E.				
10 "			65	68					2		b. m.	
11 "			65	68								
12 "			65	68								
Mean.			65·79	68·25	63	30·175						
Nov. 29.												
1 A. M.			64°	67°				E. N. E.	2	Clear.	b. m.	Course S.W. ½ W.
2 "			63	67								
3 "			62	67	62°	30·220						
4 "			63	67					3			
5 "			63	68								
6 "			65	68				N. E.			b.	Course W.S.W.
7 "			67	68								Many birds about.
8 "			69	68								
9 "			68	69	67°	30·120	68° 58°					
10 "			67	69								New Holland in sight to the westward.
11 "			68	69								
12 "	33° 07′	152° 47′						North.	5			
1 P. M.			69	70						Cum. st.	b. e.	
2 "			69	68								
3 "			67	66	66°	30·120						
4 "			67	68								
5 "			67	68							e.	
6 "			67	68								Sydney lighthouse in sight.
7 "			67	67								
8 "			67	67					4		c. u. m.	
9 "						30·080	66° 64°					
10 "												
11 "												Anchored in Sydney Harbour, in 7 fathoms water.
12 "									2			
Mean.			66·26	65	65	30·135						

U. S. SHIP VINCENNES.

SYDNEY, NEW SOUTH WALES.

1839.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 30.												
1 A. M.			64°	66°				Calm.	0	Clear.	b. w.	
2 "			64	66								
3 "			62	66	61°	30·000	63° 61°					
4 "			62	66								
5 "			64	66								
6 "			64	67							b.	
7 "			66	67								
8 "			70	67				West.	2			
9 "			72	67		29·980	77° 66°					
10 "			73	68					5			The Flying-Fish arrived.
11 "			80	68								
12 "			84	68								
1 P. M.			87	69				N.W.	6			
2 "			90	68								
3 "			91	68	89°	29·900	73° 56°	North.				
4 "			82	68						Cum. st.	b. c.	
5 "			80	68								
6 "			75	68				N. N. E.		Clear.	b. m.	
7 "			75	68					5			
8 "			75	68								
9 "			74	68							b. m. q.	
10 "			74	68	62°	29·800	75° 56°	North.		Cir. stra.	c. m. q.	
11 "			76	68								
12 "			76	68				N.W.				
Mean.			74·16	67·45	70·66	29·920						
Dec. 1.												
1 A. M.			78°	68°				W. N. W.	4	Stratus.	c. q.	
2 "			78	68								
3 "			78	68	75°	29·600	76° 52°					
4 "			78	68								
5 "			78	68								
6 "			79	68				N.W.	5	Clear.	b.	
7 "			80	68								
8 "			80	68								
9 "			80	68	78°	29·500						
10 "			81	68								
11 "			81	68					6			
12 "			82	68						Cir. stra.	c.	
1 P. M.			82	68								
2 "			81	68				W. N. W.	7			
3 "			80	68	78°	29·500	76° 50°					
4 "			80	68								
5 "			68	68								
6 "			66	68								
7 "			62	68				S. S. E.			c. q.	
8 "			62	68					9		d.	Wind shifted suddenly.
9 "			63	68	60°	29·760	Rain.	Var.	7			
10 "			62	68							c. q. d.	
11 "			59	68					3		c. d.	
12 "			59	68								
Mean.			74·04	68	72·75	29·590						

Sydney, N. S. W.

Sydney, N. S. W.

U. S. SHIP VINCENNES.

SYDNEY, NEW SOUTH WALES.

1839.	Lat. South.	Long. East.	THERMOMETERS.			Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
			Air.	Water.	Mast-head.			Direc.	Force.			
Dec. 2.												
1 A. M.			60°	64°				Var.	3	Stratus.	c.	
2 "			58	64								
3 "			55	64	54°	29·800	60° 40°					
4 "			57	67				West.	2	Clear.	b.	
5 "			57	67								
6 "			57	67								
7 "			56	67								
8 "			60	67					4			
9 "			61	67	64°	29·700	62° 48°					
10 "			62	67								
11 "			63	67								
12 "			64	67								
1 P. M.			68	67								
2 "			67	67				S. S.W.	3			
3 "	Sydney, N. S. W.		67	67	66°	29·720				Cum. st.	b. c.	Wind shifted suddenly.
4 "			67	67								
5 "			67	67								
6 "			67	67								
7 "			65	67						Clear.	b.	
8 "			64	66								
9 "			60	66	58°	29·820	62° 48°		2			
10 "			60	66							b. w.	
11 "			60	66								
12 "			58	66								
Mean.			61·66	66·41	60·5	29·760						
Dec. 3.												
1 A. M.			57°	66°				S. W.	2	Clear.	b. w.	
2 "			56	66								
3 "			56	64	54°	29·880		West.				
4 "			54	64								
5 "			56	66								
6 "			58	67				W. S.W.			b.	
7 "			62	67								
8 "			62	67								
9 "			66	67	65°	29·960	68° 40°					Preparing the Observatory.
10 "			65	68								
11 "	Sydney, N. S. W.		70	68				S. S.W.	3			
12 "			68	68								
1 P. M.			68	68								
2 "			67	68				S. S. E.				
3 "			66	68	69°	30·000				Cum. st.	c.	
4 "			65	68					4			
5 "			65	68								
6 "			64	68						Nimbus	c. u.	
7 "			62	66								
8 "			61	66								
9 "			61	66	60°	30·100	64° 56°	S. E.	6			
10 "			60	66							c. p.	
11 "			60	66					7			
12 "			58	64					6			
Mean.			61·96	66·66	62	29·985						

U. S. SHIP VINCENNES.

SYDNEY, NEW SOUTH WALES.

1839.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 4.												
1 A. M.			58°	66°				S. E.	6	Cum. st.	c.	
2 "			57	66								
3 "			58	66	56°	30·190						
4 "			58	66								
5 "			58	66								
6 "			58	66					5			
7 "			58	66								
8 "			59	67					4			
9 "	Sydney, N. S. W.		60	68	58°	30·250	68° 58°			Cir. stra.	b. c.	
10 "			60	68								
11 "			62	68				E. S. E.	3			
12 "			64	68								
1 P. M.			64	68				East.				
2 "			65	68								
3 "			65	68	64°	30·220	72° 58°	E. N. E.	2			
4 "			64	68								
5 "			64	68								
6 "			64	68						Clear.	b.	
7 "			62	67								
8 "			60	67								
9 "			60	67	58°	30·110		N. E.	1			
10 "			58	66								
11 "			58	67								
12 "			57	67								
Mean.			60·45	67·08	59	30·192						

OBSERVATORY.

INSTRUMENTS USED ON SHORE.

Standard barometer.

Attached thermometer.

Thermometer, the bulb covered with black wool.

" " " white "

" " " lampblack.

" " uncovered.

Temperature of water, and thermometer at mast-head, observed on board U. S. Ship Vincennes.

Hygrometer.

OBSERVATORY.

SYDNEY, NEW SOUTH WALES.

1839.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	White Wool.	Black Bulb.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Dec. 5.													
1 A. M.	30·002	59°	56°	56°	56°	56°	67°			Calm.	0	Clear.	b.
2 "	·030	58	54	54	55	54	66						
3 "	·044	58	54	54	55	54	66	55°					
4 "	·050	58	56	56	56	58	66						
5 "	·050	57	57	57	58	59	66			North.	1		
6 "	·050	58	68	71·5	70	62	67						
7 "	·050	68	83	83	78	72	67						
8 "	·050	69	83	82	75	72	67						
9 "	·016	69	81	77	75	72	68	70°	73° 55°			Cum. st.	b. c.
10 "	29·982	71	81	77·5	78	71·5	68			Calm.	0		
11 "	·952	72	82	78	76	76	68						
12 "	·950	76	82	77·5	80	74	68						
1 P. M.	·926	77·5	78	70·5	76	72	68			S.E.	3	Nimbus.	c. q.
2 "	·926	76	78	79	75	72·5	68						
3 "	·926	79	76·5	74	76	72·5	68	70°	77° 63°		5		
4 "	·926	80	78·5	69	71	72·5	68						c.d.h.q.
5 "	·950	72·5	73	65	63·5	70	68						
6 "	·950	65	66·5	62	62	66	68			S.S.E.			
7 "	30·016	64	63	62	63	63	67				7		
8 "	·996	64	63	62	63	63	67				6		q. d.
9 "	·996	64	63	62	63	63	66			South.	5		
10 "	·996	62	62	60	61	62	66						
11 "	·996	62	59	60	61	60	66			S.S.W.	4		
12 "	·996	61	60	58	59	59·5	66			Calm.	0		c. q.
Mean.	29·996	62·54	69·04	66·95	66·71	65·55	67·08	65					
Dec. 6.													
1 A. M.	30·000	60°	59°	57°	59°	59°	67°			E.S.E.	2	Cum. st.	c.
2 "	·000	60	60	60	60	60	67						
3 "	·000	60	60	60	60	60	66	58°	60° 48°				
4 "	·000	60	60	60	60	60	66			S.E.	1		c. m.
5 "	·000	60	60	60	60	60	67						
6 "	·000	61	61	61	61	61	66						
7 "	·024	61	62	62	61	61	66					Cir. stra.	
8 "	·024	61	64	64	63	63	66						
9 "	·000	66	67	68	66	64	67	62°	77° 68°		3		c.
10 "	·000	66	67	68	66	64	67						
11 "	·000	68	74	70	74	68	67						
12 "	·000	68	73	74	75	68	67						b. c.
1 P. M.	29·978	72	74	74	74	70	67						
2 "	·950	74	70	69	70	66	67			East.	4	Clear.	b.
3 "	·948	73	70	71	67	66	67	64°	70° 52°				
4 "	·922	72	66	67	66	63	66						
5 "	·916	69	68	65	64	64	66						
6 "	·900	67	64	64	63	62	66				3		
7 "	·950	63	63	64	63	64	68						
8 "	·950	64	64	64	64	64	66					Stratus.	c.
9 "	·950	64	64	64	64	64	67	60°	64° 53°	N.E.			
10 "	·950	64	64	64	64	64	67				2		
11 "	·920	64	64	64	64	64	67						
12 "	·920	64	64	64	64	64	67			N.N.E.		Nimbus.	
Mean.	29·970	65·04	65·08	64·91	64·66	63·46	66·5	61					

OBSERVATORY.

SYDNEY, NEW SOUTH WALES.

1839.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	White Wool.	Black Bulb.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Dec. 7.													
1 A. M.	29·920	64°	64°	64°	64°	64°	67°			N. N. E.	2	Overcast.	d.
2 "	·900	64	64	63·5	61	61	67						
3 "	·884	63	61	62	60·5	60	67	60°					
4 "	·864	63	61	60	60	60	67						
5 "	·824	62	61	61	60	60	67			Calm.	0	Nimbus.	
6 "	·814	63	62	64	61·5	60·5	67						
7 "	·814	63	62	65	62	60·5	67						
8 "	·806	64	66	63	62	64	67					Overcast.	m.
9 "	·812	64	62	69	62	61	67	62°		South.	1		
10 "	·824	68	70	69	61	66	67			Calm.	0		
11 "	·822	69	70	71	73	68	67						
12 "	·822	70	73	73	73	70	67						
1 P. M.	·792	73	77	79	76	71	68						
2 "	·760	73	74	76	73	70	68			E. N. E.	3	Cum. st.	c.
3 "	·800	73	73	73	70	69	68	67°	70° 63°				
4 "	·796	69	69	70	69	68	68			East.		Nimbus.	
5 "	·800	67	66	68	67	66	68			S. E.			
6 "	·810	67	66	67	66	68	67						p.
7 "	·814	66	66	66	66	66	67						
8 "	·850	66	62	63	62	62	67				5		
9 "	·910	64	62	62	61	62	67	61°		S. S. E.			r.
10 "	·910	64	61	61	61	61	67						
11 "	·916	63	60	61	61	62	66						
12 "		62	60	61	60	61	66						
Mean.	29·837	66	62·16	66·3	64·66	64·2	67·12	62·5					
Dec. 8.													
1 A. M.	29·862	56°	56°	57·5°	53°	58°	67°			S. S. E.	6	Nimbus.	q. r.
2 "	·862	62	56	57	53	56	67						
3 "	·860	59	56	57	58	58	66	57°					
4 "	·860	60	58	56	60	60	66						q. r.
5 "	·900	60	58	58	58	58	66				3		
6 "	·910	62	66	66	66	66	67						p.
7 "	·948	66	66	66	66	66	67			S. E.			
8 "	·978	66	66	66	64	66	67						
9 "	30·000	66	62	62	63	63	67	62°	62° 52°			Cir. stra.	c.
10 "	·000	66	62	62	64	63	67						
11 "	·000	66	71	73	70	69	68						
12 "	·000	68	74	72	71	69	68						
1 P. M.	·000	68	76	78	73	70	67						
2 "	·000	67	69	71	67	66	68			S. S. E.			
3 "	·000	67	68	69	67	65	68	64°					
4 "	·000	66	73	74	74	69	68						
5 "	·000	70	68	69	65	65	68						
6 "	·000	66	64	65	63	64	68			S. E.	2		b. c.
7 "	·026	65	62	62	62	62	68						
8 "	·026	63	61	62	62	62	68						
9 "	·020	62	62	63	65	62	67	58°	64° 61°				
10 "	·050	63	62	63	63	62	67						c.
11 "	·050	62	62	63	62	62	67						
12 "	·050	63	62	63	63	62	67						
Mean.	29·975	64·12	64·16	64·75	63·83	63·45	67·25	60·25					

OBSERVATORY.

SYDNEY, NEW SOUTH WALES.

1839.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	White Wool.	Lamp-black.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Dec. 9.													
1 A. M.	30·060	63°	62°	62°	62°	62°	66°			E.S.E.	3		c.
2 "	·050	63	63	63	63	63	66						
3 "	·044	63	63	62	65	61	66	60°			2		
4 "	·042	63	62	63	63	62	66						
5 "	·042	64	62	63	62	62	66			Calm.	0		
6 "	·042	64	64	64	64	64	67						
7 "	·064	65	67	67	67	66	67						
8 "	·072	70	75	74	71	70	68						
9 "	·070	76	70	74	67	69	68	67°	68° 54°	E.N.E.	3	Clear.	b.
10 "	·070	75	70	73	70	68	67						
11 "	·070	75	72	74	74	70	68			N.E.			
12 "	·050	75	74	76	74	70	68						
1 P. M.	·030	71	74	74	74	69	68			North.	5		
2 "	·030	73	71	71	71	69	68					Nimbus.	c.
3 "	·020	71	69	69	69	69	68	66°		N.N.W.			c. u.
4 "	·020	75	68	68	68	69	68						
5 "	·000	67	66	64	64	69	68						
6 "	·060	67	65	65	65	64	68			W.N.W.	6		c. d.
7 "	·036	67	66	66	66	64	68						
8 "	·050	67	66	66	67	66	67						
9 "	·054	67	67	67	66	67	67	65°		S.W.	4		
10 "	·052	67	66	66	66	66	66					Cir. stra.	c.
11 "	·054	67	66	66	66	66	66						
12 "	·054	67	66	66	66	66	66			Calm.	0		
Mean.	30·048	68·45	67·41	67·75	67·12	66·3	67·12	64·5					
Dec. 10.													
1 A. M.	30·054	67°	63°	63°	63°	63°	66°			E.N.E.	2	Overcast.	d.
2 "	·054	67	62	63	62	64	66						
3 "	·054	67	62	63	62	64	67	61°	Rain.				
4 "	·054	66	62	63	62	62	67						
5 "	·054	66	62	63	62	62	67						r.
6 "	·060	67	63	64	63	63	67				3		
7 "	·060	67	64	65	64	64	67						
8 "	·060	67	65	66	65	64	67						
9 "	·092	68	68	67	69	67	68	64°	Rain.	East.	5		d.
10 "	·080	68	66	66	67	65	68						
11 "	·102	69	66	66	67	65	68						
12 "	·102	69	66	66	67	65	68					Nimbus.	
1 P. M.	·102	69	67	67	68	66	68						
2 "	·102	69	66	66	66	64	67						
3 "	·086	69	66	66	67	66	67	63°	Rain.				
4 "	·122	69	66	66	64	66	67				4		p.
5 "	·132	67	64	66	63	66	67						
6 "	·150	65	63	63	62	64	67			E.N.E.			
7 "	·150	65	63	63	62	64	67						r.
8 "	·150	65	63	63	63	64	66						
9 "	·168	65	64	64	63	64	67						
10 "							67						
11 "							67						
12 "							67						
Mean.	30·092	67·19	64·33	64·71	64·38	64·38	67·08	62·66					

OBSERVATORY.

SYDNEY, NEW SOUTH WALES.

1839.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	White Wool.	Lamp-black.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Dec. 11.													
1 A. M.	30·150	66°	66°	64°	66°	64°	67°			E. N. E.	3	Nimbus.	c.
2 "	·134	66	65	64	66	66	67						
3 "	·132	66	66	64	66	64	67	65°	62° 61°		5	Cir. stra.	c. q.
4 "	·132	66	66	64	66	66	67						
5 "	·100	66	68	65	66	65	67						
6 "	·108	67	67	65	66	66	67						
7 "	·118	69	73	72	74	74	67			East.	4		c.
8 "	·144	69	74	74	74	71	68						
9 "	·144	74	76	76	74	71	68	66°					
10 "	·150	73	73	73	71	69	68			E. N. E.			
11 "	·150	75	74	74	73	69	68						
12 "	·106	75	74	76	75	71	68						
1 P. M.	·082	75	75	76	76	72	68						
2 "	·100	74	75	75	75	72	68					Cum. st.	b. c.
3 "	·082	74	74	74	75	71	68	63°		N. E.	3		
4 "	·080	70	74	74	68	70	69						
5 "	·126	69	69	68	68	69	68						
6 "	·000	68	68	69	66	69	68						
7 "	·000	67	66	65	67	67	68						
8 "	·000	68	66	67	67	68	68				4		
9 "	29·998	67	66	66	67	67	68	63°	68° 66°			Stratus.	c.
10 "	·980	68	66	66	66	66	68			East.	3		
11 "	·960	67	68	68	66	69	67						
12 "	·904	67	68	67	66	67	67						
Mean.	30·078	68·16	69·95	69·41	69·33	68·45	67·66	64·25					
Dec. 12.													
1 A. M.	29·850	70°	67°	68°	67°	64°	68°			E. S. E.	2	Cir. stra.	c.
2 "	·822	70	67	68	67	64	68						
3 "	·822	70	67	66	68	66	68	66°	66° 65°				
4 "	·822	70	68	67	67	68	68			East.		Overcast.	
5 "	·822	70	68	68	67	67	68			E. N. E.			m. d.
6 "	·822	70	68	68	67	67	68						
7 "	·822	70	68	68	67	67	68						
8 "	·776	69	70	70	68	70	68						
9 "	·764	73	78	77	75	72	68	72°	70° 67°	N. E.	1	Cumulus	c.
10 "	·702	74	82	81	78	74	68						
11 "	·700	78	96	95	86	83	68						
12 "	·700	78	94	96	93	86	69					Nimbus.	c. u.
1 P. M.	·700	76	94	96	93	86	69			Calm.	0		
2 "	·700	75	66				69			N.W.	5		q. r.
3 "	·700	76	68				69	68°	Rain.				
4 "	·720	76	72				68				7		q. c.
5 "	·748	73	68				68						
6 "	·748	67	66				68						
7 "	·748	67	64				68				9		r. t. l. q.
8 "	·872	64	64				68						
9 "	·872	64					68	62°	Rain.		8		
10 "	·872	64					68						
11 "	·872	64					68						
12 "	·872	64					68				5	Cum. st.	c.
Mean.	29·785	70·37	72·85	76	74·07	71·84	68·16	67					

OBSERVATORY.

SYDNEY, NEW SOUTH WALES.

1839.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	White Wool.	Black Bulb.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Dec. 13.													
1 A. M.	29·940	64°					66°			W.S.W.	6	Nimbus.	g. u.
2 "	·940	64					66						
3 "	·938	63					66	68°					
4 "	·938	62					66						
5 "	·940	63					66						
6 "	·945	64					67			S. W.			
7 "	·900	65					67						
8 "	·980	66					68				7	Clear.	b.
9 "	30·002	68					68	63°	63° 54°				
10 "	·014	68					68						
11 "	·036	69					68						
12 "	·050	70					68						
1 P. M.	·070	70					68						
2 "	·078	69					68			S. S. W.	9		
3 "	·098	68					68	66°	70° 55°				
4 "	·124	65					68						
5 "	·124	64					68						
6 "	·124	64					68						
7 "	·124	60					68					Stratus.	c.
8 "	·172	60					68						
9 "	·172	60					68	59°	60° 48°				
10 "	·165	60					68				8		b. c.
11 "	·179	60					68						
12 "	·170	60					67						c.
Mean.	30·053	64·41					67·45	64·5					
Dec. 14.													
1 A. M.							68°			S. S. W.	7	Nimbus.	r.
2 "							68						
3 "							66	53°				Overcast.	
4 "	30·130	57°					66						
5 "	·172	57					67				6		d.
6 "	·172	57					67						
7 "	·164	57					67					Cum. st.	c.
8 "	·174	57					67						
9 "							67	61°	62° 46°				
10 "							67						
11 "							67				8		
12 "							68						
1 P. M.							68						
2 "							68						
3 "	30·208	68·5					68	64°	76° 52°				
4 "	·220	68·5					68			S.	7		
5 "							68					Nimbus.	
6 "							68						
7 "							67						
8 "							67				8		q. p.
9 "	30·200	62					66	58°	61° 48°	S. S. W.			q.
10 "	·200	61					66						
11 "	·170	59					66				5		q. p.
12 "	·170	59					66						
Mean.	30·180	60·27					67·12	59°					

Instruments not exposed, on account of wind.

OBSERVATORY.

SYDNEY, NEW SOUTH WALES.

1839.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	White Wool.	Black Bulb.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Dec. 15.													
1 A. M.	30·172	60°	60°	60°	60°	60°	67°			S. S.W.	4	Nimbus.	r.
2 "	·172	60	60	60	60	60	67						
3 "	·150	58	58	57	58	57	67	57°					
4 "	·152	58	58	57	58	57	67						
5 "	·152	59	60	60	60·5	60	67						
6 "	·152	56	63	62	63·5	62	67			S.W.	3	Cum. st.	c.
7 "	·200	56	69	66	67	66	67						
8 "	·200	56	69	65	67	68	67						
9 "	·200	67	70	67	70	66	67	60°	60° 58°				
10 "	·200	68	70	67	70	65	67						
11 "	·200	68	72	69	74	65	68						
12 "	·216	68	72	71	79	67	68			S. S.W.	5		
1 P. M.	·218	74	74	68	73	76	68						
2 "	·218	73	72	68	73	68	68						
3 "	·200	73	72	67	73	68	68	64°					
4 "	·200	72	70	65	72	69	68			S. S. E.	3	Clear.	b.
5 "	·200	70	74	60	60	66	68						
6 "	·200	65	60	60	60	60	68						
7 "	·200	65	60	58	58	60	67						
8 "	·200	62	59	58	58	58	67			Calm.	0		
9 "	·200	60	58	58	58	58	67		60° 54°	W. S.W.	1		
10 "	·148	60	58	58	58	58	67						
11 "	·042	60	58	58	58	58	66					Cir. stra.	b. c.
12 "	·042	60	58	58	58	58	66			S.W.	2		
Mean.	30·176	62·83	64·33	62·77	64·41	62·83	67·25	60·33					
Dec. 16.													
1 A. M.	30·088	60°	59°	59°	59°	59°	66°			S.W.	2	Cirrus.	b. c.
2 "	·100	60	59	59	59	59	66						
3 "	·100	60	59	59	59	59	67	56°					
4 "	·100	60	60	60	60	60	67						
5 "	·100	60	60	60	61	60	67					Clear.	b.
6 "	·100	60	60	60	61	60	67						
7 "	·110	62	64	64	64	64	67			S. S.W.	3		
8 "	·115	64	64	64	64	64	68						
9 "	·120	64	64	65	64	65	68	66°					
10 "	·120	64	84	74	83	73	68			S. S. E.			
11 "	·110	64	82	74	80	73	68						
12 "	·092	74	75	73	79	70	68						
1 P. M.	·048	78	75	73	79	70	67						
2 "	·048	78	80	78	79	78	67						
3 "	·048	78	80	69	79	69	67	66°		E. S. E.	2		
4 "	·048	78	79	68	77	68	67						
5 "	·048	77	78	65	76	65	68						
6 "	·030	75	75	65	74	65	68						
7 "	·030	72	63	62	62	62	67			Calm.	0		
8 "	·030	72	60	57	61	60	67			W^{d}.	1	Cir. stra.	b. c.
9 "	·020	70	58	55	60	57	67	59°		Calm.	0		
10 "	·010	68	55	55	57	56	68			E. S. E.	2		
11 "	·000	68	55	55	56	56	67						
12 "	·000	67	55	55	55	56	67						
Mean.	30·067	68·04	66·79	63·66	67	63·66	67·25	61·75					

OBSERVATORY.

SYDNEY, NEW SOUTH WALES.

1839.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	White Wool.	Black Bulb.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Dec. 17.													
1 A. M.	29·960	55·5°	55°	55°	58°	55°	66°			W. S. W.	3	Cirrus.	c.
2 "							66						
3 "							66	54°	68° 56°		2		
4 "							66						
5 "	29·960	55	55	55	55	55	66			Calm.	0		
6 "	·960	55	55	55	55	55	66			North.	1	Cir. stra.	b. c.
7 "	·930	55	77	55	65	55	66			Calm.	0		
8 "	·930	76	77	78	66	76	68						
9 "	·930	76	77	78	66	76	68	60°	68° 56°				
10 "	·950	71	79	78	78	71	68			S. S. E.	3		
11 "	·950	75	79	75	79	75	68						
12 "	·916	71	78	74	73	71	68			S. E.			
1 P. M.	·906	70	76	75	74	70	68			East.			
2 "	·900	70	71	70·5	74	70	68						
3 "	·836	70	71	70·5	74	70	68	67°	69° 60°				
4 "	·836	70	71	70·5	74	70	67			E. N. E.	2		
5 "	·836	70	67	69·5	69	70	67						
6 "	·812	66	66	66	68·5	66	67						
7 "	·812	66	66	66	66	66	67						
8 "	·812	66	66	66	66	66	67					Cum. st.	c.
9 "	·812	65	66	64	66	66	68	63°		Calm.	0		
10 "	·810	65	63·5	64	63·5	64	68						
11 "	·810	65	63	63	63·5	64	68						
12 "	·810	66	63	63	63	62	68			S. E.	1	Nimbus.	c. d.
Mean.	29·879	66·57	68·61	67·19	67·42	66·57	67·2	61					
Dec. 18.													
1 A. M.	29·806	63°	62°		62°	61°	68°			S. S. E.	2	Nimbus.	d.
2 "	·810	63	62		62	60	68						
3 "	·850	63	61		62	61	68	63°	Rain.				
4 "	·880	64	61		62	61	68			Calm.	0		p.
5 "	·880	68	61		62	61	68			Var.	1		
6 "	·895	69	66		66	66	68						
7 "	·900	70	67		67	67	68						
8 "	·950	72	70		70	68	68			Calm.	0		
9 "	·950	70	70		70	68	68	65°	Rain.				
10 "	·950	69	66		66	65	68			S. S. E.	2		d.
11 "	·950	69	64		64	63	68						
12 "	·950	68	64		63	63	68						
1 P. M.	·950	68	62		62	62	68				3		
2 "	·936	68	65		68	65	68						
3 "	·936	68	65		68	65	68	64°	Rain.	South.			r.
4 "	·936	68	65		68	65	68						
5 "	·936	66	62		66	62	68						
6 "	·950	66	61		66	61	68			S. E.	2		
7 "	·980	64	61		65	61	68						
8 "	30·000	63	60		62	60	68					Stratus.	c.
9 "	·026	63	63		63	63	67	60°					
10 "	·026	63	63		63	63	67			E. S. E.			
11 "	·510	63	63		63	63	66				1		
12 "	·510	63	60		60	60	66						
Mean.	29·977	66·12	63·5		64·58	63·2	67·75	63					

OBSERVATORY.

SYDNEY, NEW SOUTH WALES.

1839.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	White Wool.	Black Bulb.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Dec. 19.													
1 A. M.	30·510	61°	60°	60°	60°	60·5°	66°			E. S. E.	2	Overcast.	d.
2 "	·510	61	60	60	60	60·5	66						
3 "	·510	61	60	60	60	62	67	60°	Rain.				
4 "	·510	62	62	62	62	62	67						
5 "	·500	62	62	62	62	63	67			Var.			
6 "	·500	64	62	62	62	63	67			Calm.	0		p.
7 "	·500	64	62	61	62	63	67			E. S. E.	2		
8 "	·500	64	62	61	62	63	67						
9 "	·500	65	63	62	62	63	67	63°	Rain.	S. E.			
10 "	·106	65	68	62	62	63	67						
11 "	·106	67	67	68	68	66	67			South.	3		d.
12 "	·106	67	68	66	67	66	67						
1 P. M.	·110	67	65	66	65	66	67						
2 "	·110	66	66	65	66	65	67						r.
3 "	·110	67	66	65	66	64	68		Rain.				
4 "	·110	67	65	64	65	64	68				4		
5 "	·138	66	63	64	62	64	68						
6 "	·130	65	62	64	62	62	67			S. E.			
7 "	·200	63	62	62	62	62	67						
8 "	·200	64	62	62	62	62	67						
9 "	·200	63	65	62	65	62	67	60°		E. S. E.	2	Cum. st.	c.
10 "	·200	65	64	62	65	65	67						
11 "	·200	64	64	65	64	64	67						
12 "	·200	64	63	63	63	63	67						
Mean.	30·281	64·33	63·45	62·91	63·16	63·25	67·04	61					
Dec. 20.													
1 A. M.	30·192	65°	63°	62°	63°	62°	67			East.	1	Cir. stra.	c.
2 "	·192	65	63	62	63	62	67						
3 "	·192	65	63	62	63	62	67	61°					
4 "	·200	64	63	62	63	62	67						
5 "	·190	64	63	62	63	62	67				2	Overcast.	o.
6 "	·190	64	63	63	63	62	67						
7 "	·250	67	72	68	74	68	67						
8 "	·250	67	72	68	74	68	67						
9 "	·250	67	72	68	72	68	67	66°	68° 65°				
10 "							67					Cum. st.	c.
11 "							67						
12 "							68						
1 P. M.							68			S. E.	3	Nimbus.	r.
2 "							68						
3 "							68	65°					
4 "							68						
5 "							68						
6 "							68			E. S. E.	2		c.
7 "							68						
8 "							68						
9 "	30·280	67	69	68	69	68	68	61°	67° 58°	E. N. E.	3		
10 "							68						
11 "	30·372	63	65	65	65	63	68						
12 "							67						
Mean.	30·232	65·27	66·18	64·54	66·54	64·27	67·5	63·25					

OBSERVATORY.

SYDNEY, NEW SOUTH WALES.

1839.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	White Wool.	Black Bulb.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Dec. 21.													
1 A. M.	30·250	65°	65·5°	65°	65·5°	65°	67°			N. E.	3	Overcast.	c. u.
2 "	·250	60	64·5	64	64·5	64	67						
3 "	·250	64	64·5	64	64·5	64	67	64°					
4 "	·250	60	64	64	64·5	64	67						
5 "	·250	60	67	66	65	66	67						
6 "	·250	60	68	67	65	67	67			E. N. E.	4	Cum. st.	c.
7 "	·250	61	68	67	65	67	67						
8 "	·250	61	68	67	65	67	67						
9 "	·250	61	69	67	65	69	67	67°					
10 "	·250	61	68	67	70	67	67					Nimbus.	
11 "	·316	67	70	67	70	67	67				6		d.
12 "	·316	68	70	67	70	68	67						
1 P. M.	·316	68	70	68	70	68	67						
2 "	·310	68	70	68	70	68	68						
3 "	·300	68	70	68	70	68	68	66°			4		c.
4 "	·300	68	70	68	70	67	68						
5 "	·300	68	70	67	70	68	68						
6 "	·300	67	70	68	70	67	68						
7 "	·300	66	70	67	70	66	68					Cir. stra.	b. c.
8 "	·300	68	68	67	70	66	67						
9 "	·300	66	68	67	66	66	67	64°		East.	3		
10 "	·300	66	67	67	66	66	67						
11 "	·200	66	66	66	66	66	67						
12 "	·200	66	66	66	66	66	67				4		
Mean.	30·272	64·75	67·95	66·62	67·45	66·54	67·25	65·25					
Dec. 22.													
1 A. M.	30·274	66°	66°	66°	66°	66°	67°			East.	4	Cir. stra.	c.
2 "	·274	66	66	66	66	66	67						
3 "	·228	65	68	66	67	66	67						
4 "	·228	66	68	68	67	68	68			E. S. E.	3		
5 "	·228	65	68	66	67	66	68						
6 "	·228	66	68	66	67	66	68						
7 "	·228	66	68	66	67	66	68			N. W.	4	Nimbus.	d.
8 "	·200	67	72	66	72	66	68						
9 "	·300	73	74	72	74	72	68	65°	68° 66°				c.
10 "	·300	75	79	73	79	74	68			North.	3		
11 "	·280	75	73	69	73	69	68						
12 "	·268	74	75	72	75	72	68						
1 P. M.	·268	74	75	72	75	72	68			N. N. E.	4		
2 "	·222	74	74	74	74	72	68					Cum. st.	b. c.
3 "	·200	73	73	72	74	72	68	69°	72° 50°				
4 "	·182	75	73	71	74	72	68			North.	5		
5 "	·182	74	72	72	72	72	68						
6 "	·188	72	70	70	70	70	67						
7 "	·188	69	68	68	68	68	67						
8 "	·188	68	67	68	68	68	67			N. N. E.	3		c.
9 "	·192	68	67	67	66	67	68	66°	68° 62°				
10 "	·192	67·5	67	67	66	67	68						
11 "	·170	67·5	67	67	67	67	68						
12 "	·168	67·5	67	67	67	67	68				2		
Mean.	30·228	69·7	70·2	68·8	70·04	68·79	67·75	66·66					

OBSERVATORY.

SYDNEY, NEW SOUTH WALES.

1839.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	White Wool.	Black Bulb.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Dec. 23.													
1 A. M.	30·136	68°	67°	67°	67°	67°	68°			N. E.	2	Overcast.	r.
2 "	·136	68	67	67	67	67	68						
3 "	·100	68	66	67	66	67	67	65°					
4 "	·100	68	66	66	66	66	67					Cir. stra.	b. c.
5 "	·100	68	68	68	68	68	67						
6 "	·100	69	70	70	70	70	67						
7 "	·100	73	73	73	73	73	67						
8 "	·100	73	80	73	73	73	67						c.
9 "	·100	79	76	81	71	75	67	68°	74° 64°	N. N. E.	3		
10 "	·100	79	76	81	80	75	67						
11 "	·100	79	75	77·5	80	76	67						
12 "	·100	79	75	77	80	76	68						
1 P. M.	·100	79	76	77	80	75	68					Overcast.	
2 "	·098	79	76	77·5	80	76	68						
3 "	·090	76	73	76	78	76	68	68°	Rain.		4		r.
4 "	·073	74	72	76	76	74	68						
5 "	·060	73	71	72	74	73	68						
6 "	·048	72	70	70	73	72	68						
7 "	·050	71	69	68	71	70	68			N. E.			
8 "	29·924	71	69	68	70	68	68						
9 "	·916	71	69	68	70	68	68	68°	Rain.		3		
10 "	·906	71	69	68·5	70	69·5	68						
11 "	·906	71	69	68·5	70	69·5	68						
12 "	·906	71	69	68·5	70	69·5	68						
Mean.	30·056	72·91	71·29	71·87	73·04	71·33	67·62	67·25					

OBSERVATORY.

SYDNEY, NEW SOUTH WALES.

DAILY MEANS.

1839.	Barom.	THERMOMETERS.						
		Att.	Black Wool.	White Wool.	Black Bulb.	No Wool.	Water.	Mast-head.
Dec. 5th.	29·996	62·54°	69·04°	66·95°	66·71°	65·55°	67·08°	65°
" 6th.	29·970	65·04	65·08	64·91	64·66	63·46	66·5	61
" 7th.	29·837	66	62·16	66·3	64·66	64·2	67·12	62·5
" 8th.	29·975	64·12	64·16	64·75	63·83	63·45	67·25	60·25
" 9th.	30·048	68·45	67·41	67·75	67·12	66·3	67·12	64·5
" 10th.	30·092	67·19	64·33	64·71	64·38	64·38	67·08	62·66
" 11th.	30·078	68·16	69·95	69·41	69·33	68·45	67·66	64·25
" 12th.	29·785	70·37	72·85	76	74·07	71·84	68·16	67
" 13th.	30·053	64·41					67·45	64
" 14th.	30·180	60·27					67·12	59
" 15th.	30·176	62·83	64·33	62·77	64·41	62·83	67·25	60·53
" 16th.	30·067	68·04	66·79	63·66	67	63·66	67·25	61·75
" 17th.	29·879	66·57	68·61	67·19	67·42	66·57	67·2	61
" 18th.	29·977	66·12	63·5		64·58	63·2	67·75	63
" 19th.	30·281	64·33	63·45	62·91	63·16	63·25	67·04	61
" 20th.	30·232	65·27	66·18	64·54	66·34	64·27	67·5	63·25
" 21st.	30·272	64·75	67·95	66·62	67·45	66·54	67·25	65·25
" 22d.	30·228	69·7	70·2	68·8	70·04	68·79	67·75	66·66
" 23d.	30·056	72·91	71·29	71·87	73·04	71·33	67·62	67·25
Mean.	30·062	66·16	66·89	66·82	66·96	65·76	67·32	63·14

OBSERVATORY.

SYDNEY, NEW SOUTH WALES.

RESULTS.

BAROMETER.

Mean of 19 days,	30·062
Highest mean,	30·281
Lowest mean,	29·785
Highest point,	30·510
Lowest point,	29·700

THERMOMETER WITH BLACK WOOL.

Mean of 17 days,	66·89°
Highest mean,	72·85
Lowest mean,	60·27
Highest point,	96
Lowest point,	54

THERMOMETER WITH WHITE WOOL.

Mean of 16 days,	66·82°
Highest mean,	76
Lowest mean,	62·77
Highest point,	96
Lowest point,	54

THERMOMETER AT MAST-HEAD.

Mean of 19 days,	67·32°
Highest mean,	67·25
Lowest mean,	59
Highest point,	72
Lowest point,	53

THERMOMETER ATTACHED.

Mean of 16 days,	66·16°
Highest mean,	72·91
Lowest mean,	62·54
Highest point,	80
Lowest point,	53

THERMOMETER WITH BLACK BULB.

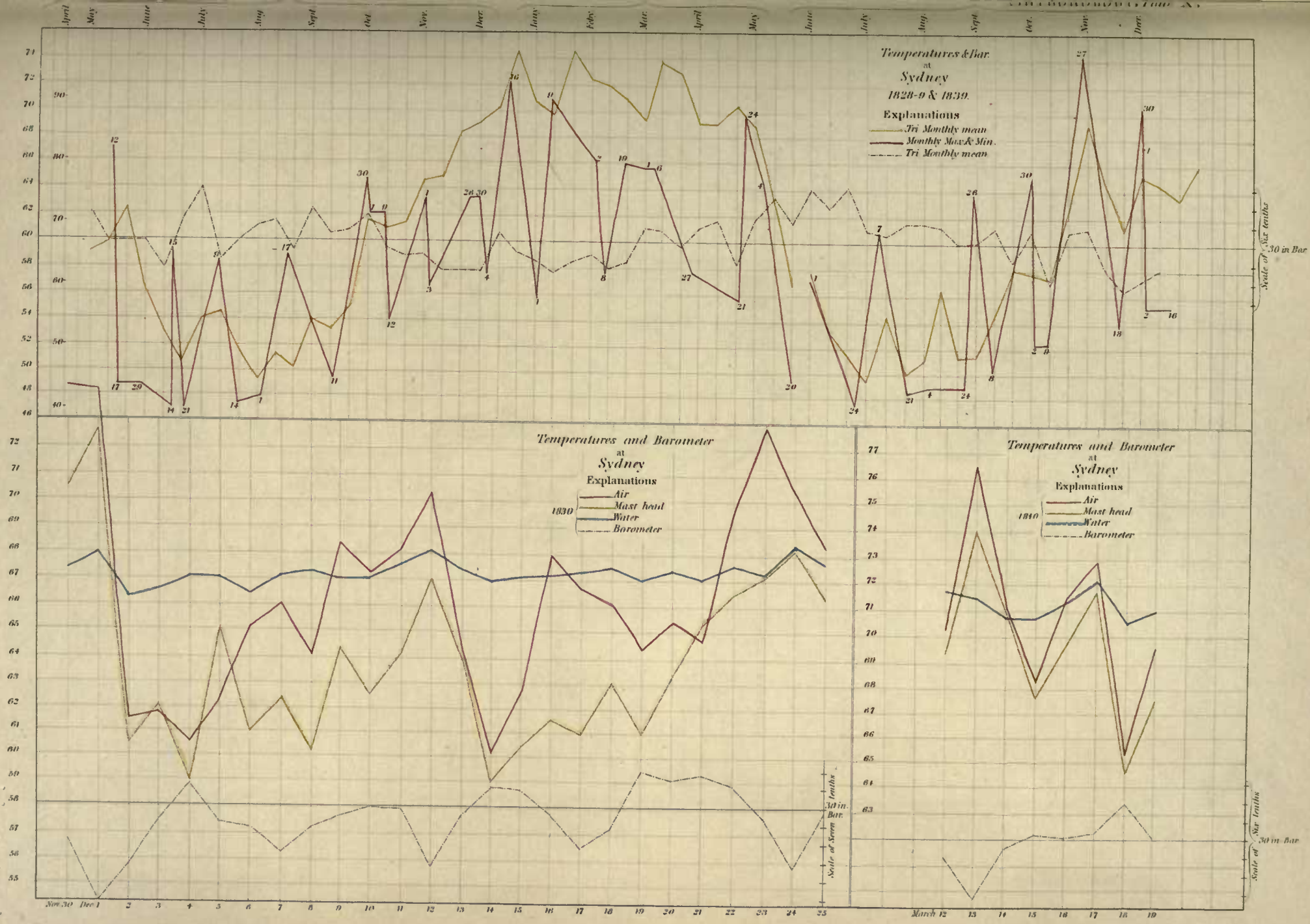
Mean of 17 days,	66·96°
Highest mean,	74·07
Lowest mean,	63·16
Highest point,	93
Lowest point,	53

THERMOMETER WITH PLAIN BULB.

Mean of 17 days,	65·76°
Highest mean,	71·84
Lowest mean,	62·83
Highest point,	86
Lowest point,	54

TEMPERATURE OF WATER.

Mean of 19 days,	63·14°
Highest mean,	68·16
Lowest mean,	66·5
Highest point,	69
Lowest point,	66


April May June July Aug. Sept. Oct. Nov. Dec. Jany. Febr. Mar. April May June July Aug. Sept. Oct. Nov. Dec.
Temperatures & Bar. at Sydney 1828-9 & 1839.
Explanations
Tri Monthly mean
Monthly Max & Min.
Tri Monthly mean
Scale of Six tenths
30 in Bar.
Temperatures and Barometer at Sydney
1830
Explanations
Air
Mast head
Water
Barometer
Scale of Seven tenths
30 in. Bar.
Nov. 30 Dec. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
Temperatures and Barometer at Sydney
1840
Explanations
Air
Mast head
Water
Barometer
Scale of Six tenths
30 in Bar.
March 12 13 14 15 16 17 18 19

U. S. SHIP VINCENNES.

SYDNEY, NEW SOUTH WALES.

1839.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 24.												
1 A. M.			68°	68°				N. E.	3	Overcast.	o.	
2 "			68	68								
3 "			68	68	66°							
4 "			68	68								
5 "			68	68				E. N. E.	4	Cir. stra.	c.	
6 "			70	68								
7 "			70	68								
8 "			70	68							b. c.	
9 "			71	68	69°	29·760						
10 "			72	69								
11 "			73	69								
12 "			74	69						Stratus.	c.	
1 P. M.			73	69					3			
2 "			73	69								
3 "			73	69	71°	29·700						
4 "			73	69				Calm.	0			
5 "			72	69				West.	5		q. r.	
6 "			71	68							c.	
7 "			72	68								
8 "			72	68				W. N. W.	4			
9 "			69	68	67°	29·900	68° 58°					
10 "			68	68								
11 "			67	68						Cum. st.	b. c.	
12 "			66	68					2			
Mean.			70·37	68·33	68·25	29·787						
Dec. 25.												
1 A. M.			66°	68°				Calm.	0	Cumulus	c.	
2 "			64	68								
3 "			64	68	62°	29·930	68° 56°	W. S. W.	1			
4 "			64	68								
5 "			65	68								
6 "			66	68					2			
7 "			67	68								Brought the instruments from the observatory.
8 "			68	68				S. W.	4	Clear.	b.	
9 "			70	68	68°	30·100	77° 44°					
10 "			70	68								
11 "			73	68								
12 "			74	68				South.				
1 P. M.			74	68								
2 "			74	68								
3 "			74	68	71°	30·120	68° 48°	S. S. E.	3	Cir. stra.	b. c.	
4 "			73	68								
5 "			72	67								
6 "			71	67					2			
7 "			70	67				Calm.	0			
8 "			68	67				S. W.	2		c.	
9 "			66	67	64°	30·200	62° 53°					
10 "			62	67					1			
11 "			60	67								
12 "			60	67								
Mean.			68·12	67·66	66·25	30·088						

Sydney, N. S. W.

Sydney, N. S. W.

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1839.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 26.												
1 A. M.			60°	67°				West.	2	Cum. st.	b. c.	
2 "			59	67								
3 "			59	67	57°							
4 "			59	67								
5 "			61	67						Clear.	b.	
6 "			62	67								Got underway with the squadron.
7 "			63	67								
8 "			64	67						Nimbus	c.	
9 "			64	67	62°	30·380					d.	
10 "			64	67								
11 "			68	67				Calm.	0	Cir. stra.	b. c.	Anchored between the Heads.
12 "			70	67								
1 P. M.			70	68								
2 "			70	68				E. S. E.	2		c.	Went to sea.
3 "			70	68	68°	30·380	72° 54°					
4 "			69	68								
5 "			69	68								
6 "			67	68				East.	3			
7 "			67	68						Cirrus.	b. c.	Steering to the S. E.
8 "			67	68								
9 "			66	67	62°	30·400	65° 52°					
10 "			64	67				E. N. E.	2	Stratus.	c.	
11 "			64	67								
12 "			64	67								
Mean.			65	67·33	62·25	30·387						
Dec. 27.												
1 A. M.			64°	67°				East.	2	Stratus.	c.	Steering to the southward.
2 "			64	67								
3 "			64	67		30·340	63° 61°					
4 "			64	67				E. by S.				
5 "			65	68								New Holland in sight to the westward.
6 "			65	68								
7 "			65	68						Clear.	b.	
8 "			66									
9 "			67	68	76°	30·400	74° 60°	E. S. E.	3			A vessel in sight.
10 "			70	68								
11 "			68	68								
12 "	35° 15′	151° 09′	66	68								
1 P. M.			68	68				S.E. byE.	4			
2 "			65	68								
3 "			65	68	62°	30·350	66° 54°					
4 "			65	67				E. by S.				
5 "			64	66								
6 "			64	66								Saw numbers of medusæ.
7 "												
8 "								East.	3			
9 "			62	64	60°	30·380	62° 62°			Cum. st.	c.	Course S. S. E.
10 "			62	64				E. by N.				
11 "			62	64								
12 "			62	64								
Mean.			64·86	66·81	66	30·367						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1839.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 28.												
1 A. M.			62°	65°				E. S. E.	3	Clear.	b. w.	Steering to the southward.
2 "			62	65								
3 "			62	65	60°	30·300	Dew.					
4 "			62	65								
5 "			62	65							b.	
6 "			62	64					2			
7 "			63	64								
8 "			64	64								
9 "			64	65	66°	30·300	72° 52°		3			
10 "			64	65								
11 "			64	65				East.				Course S. S. E.
12 "	36° 48′	151° 01′	65	65								
1 P. M.			66	66								Swell from the eastward.
2 "			66	66								
3 "			66	66	62°	30·300	62° 48°					
4 "			66	65								
5 "			64	64				E. by S.		Cir. stra.	b. c.	
6 "			64	64					4			
7 "			62	63				East.				
8 "			61	62								
9 "			61	62	60°	30·300	61° 54°			Clear.	b.	
10 "			61	62								
11 "			61	62								
12 "			60	61						Stratus.	b. c.	
Mean.			63·08	64·16	62	30·300						
Dec. 29.												
1 A. M.			60°	62°				East.	3	Stratus.	c.	Steering to the southward.
2 "			59	62				E. S. E.				
3 "			59	62	57°	30·250	60° 55°	S.E. by E.				
4 "			59	63				E. S. E.				
5 "			60	63				East.				
6 "			60	63					4			
7 "			60	63						Overcast.	o.	Heavy swell from the eastward.
8 "			63	63								
9 "			64	63	56°	30·300	65° 46°	E. by S.				
10 "			64	63								
11 "			64	63							o. m.	
12 "	38° 36′	150° 55′	64	62								
1 P. M.			63	62								
2 "			62	62				East.				
3 "			63	62	62°	30·290	69° 54°					
4 "			63	62								
5 "			62	61								
6 "			62	61								
7 "			61	61				E. by S.				Water very phosphorescent.
8 "											o.	
9 "			59	60		30·300						
10 "			58	60								
11 "			58	59								
12 "			58	59								
Mean.			61·08	61·78	58·33	30·285						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1839.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 30.												
1 A. M.			58°	59°				East.	4	Over-cast.	o. m.	Course S. S. E.
2 "			58	59								
3 "			58	59	56°	30·280	Mist.					
4 "			57	59						Stratus.	c.	
5 "			58	60								
6 "			58	60								
7 "			58	60								
8 "			58	61								
9 "			61	62	61°	30·300	64° 43°	E. by N.	3			Squadron in company.
10 "			61	61								
11 "			61	61					4			
12 "	40° 42′	150° 58′	61	61								Saw several albatross.
1 P. M.			62	62								
2 "			62	61								
3 "			61	61	60°	30·280	63° 48°					
4 "			60	61						Clear.	b.	
5 "			63	61				E. N. E.				
6 "			61	61								
7 "			60	60								Heavy swell from the N. E.
8 "			59	60								
9 "			58	59	56°	30·270	58° 48°					
10 "			57	59								
11 "			58	59								
12 "			58	59								
Mean.			59·37	60·21	58·25	30·282						
Dec. 31.												
1 A. M.			59°	60°				E. N. E.	4	Clear.	b.	Course S. S. E.
2 "			59	60								
3 "			59	60	56°	30·270	58° 54°					
4 "			59	60						Stratus.	c.	
5 "			59	59								
6 "			59	59						Over-cast.	o.	
7 "			59	59				N. E.				Albatross and petrel flying around the ship.
8 "			59	59								
9 "			60	58		30·300	61° 62°					
10 "			62	58								
11 "			62	59								
12 "	42° 48′	151° 47	63	59						Clear.	b.	
1 P. M.			63	60								Heavy swell from the N. E.
2 "			63	60				N. E. by E				
3 "			63	60	59°							
4 "			61	60								
5 "			62	59								
6 "			60	59					5			
7 "			60	59				N. E.		Cir. stra.	c. m.	
8 "			59	59								
9 "			59	58	56°	30·300	Mist.					
10 "			59	58						Over-cast.	o.	
11 "			58	58								
12 "			58	58							o. u. g.	
Mean.			60·16	59·08	57	30·290						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 1.												
1 A. M.			58°	58°				E.N.E.	5	Over-cast.	u. g.	Course S. by E.
2 "			58	58								
3 "			58	58		30·220						
4 "			58	58				N.E.		Nimbus		
5 "			58	58								
6 "			58	58					7			
7 "			58	58								
8 "			58	58				N. N. E.				
9 "			58	58	60°	30·180	65° 53°			Stratus.	c. u.	
10 "			59	58								
11 "			60	57								
12 "	45° 43′	151° 43′	60	57								
1 P. M.			61	58					8			
2 "			58	58				N. by E.				
3 "			58	58	57°	30·040	63° 53°			Cir. stra.		Saw an American ship.
4 "			58	58								
5 "											b. c. u.	
6 "			58	56		29·940						
7 "			58	55					10			Heavy sea from the northward.
8 "			58	54				North.				
9 "			57	52	55°	29·860					c. u.	
10 "			56	52								
11 "			56	52								Passed great quantities of molluscæ.
12 "			56	52								
Mean.			58·04	56·21	57·33	30·048						
Jan. 2.												
1 A. M.			56°	53°				N. by W.	10	Cir. stra.	c.	Course S. by E.
2 "			55	52								
3 "			55	51	53°	29·960						
4 "			55	51								
5 "			55	51					9			
6 "			54	53								
7 "			55	52								
8 "									8			
9 "			54	53	52°	29·950	60° 50°	N.N.W.		Clear.	b.	
10 "			54	52								
11 "			52	53					6			
12 "	48° 11′	151° 55′	54	54								
1 P. M.			57	54								
2 "			57	54							f. m.	Laying to, head to the N. E.
3 "			57	54	56°	30·080	58° 56°					
4 "			57	54							f.	
5 "			57	54					3			
6 "			57	54							b. m.	
7 "			55	54								Swell from the northward.
8 "			54	53								
9 "			53	52	52°			N.W.	2	Clear.	b. w.	
10 "			53	52								
11 "			53	52								Course S. S. E.
12 "			52	52								
Mean.			54·82	52·78	63·25	29·997						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 3.												
1 A. M.			52°	52°				N. E.	2	Over-cast.	F.	Course S. E.
2 "			52	52								
3 "			52	52	51°	30·230	Mist.					
4 "			52	52				N. N. E.			f.	
5 "			52	52								
6 "			53	52					3		m.	
7 "			53	52								
8 "			53	52							F.	
9 "			53	52	51°	30·120	Mist.					
10 "			53	52					4			
11 "			52	52								
12 "	49° 25′	153° 20′	53	48				North.				
1 P. M.			54	50								
2 "			54	50					6			
3 "			54	51	52°	30·000	Mist.	N. N. W.				Heavy swell from the northward and westward.
4 "			54	51								
5 "			53	49								
6 "			53	51					7		r.	Albatross about the ship.
7 "			53	53					8			
8 "			53	50				N. W.				
9 "			53	50	50°	29·980	Rain.					Porpoise in company.
10 "			53	50								Course S. E.
11 "			52	50					7			
12 "			52	50							f.	
Mean.			52·83	51·08	51	30·075						
Jan. 4.												
1 A. M.			50°	48°				N. W.	7	Over-cast.	m.	Course S. E.
2 "			50	48								
3 "			50	48	50°	29·960	Mist.		6			
4 "			50	47								
5 "			49	47							r.	
6 "			49	47								
7 "			49	47					5			
8 "			50	47							F. r.	
9 "			49	46		29·850	Rain.					
10 "			49	46								
11 "			50	46								Passed some patches of kelp.
12 "	51° 38′	155° 40′	50	46					4			
1 P. M.			49	47								
2 "			49	47								
3 "			49	47	48°	29·750	Rain.					Saw a school of porpoises.
4 "			48	47								
5 "			48	47								
6 "			47	48					3			
7 "			47	47								
8 "			48	47								
9 "			48	46	46°	29·660	Rain.				r.	
10 "			46	46								
11 "			46	46					2			
12 "			48	46								
Mean.			48·66	46·83	48	29·805						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 5.												
1 A. M.			47°	47°				N.W.	2	Over-cast.	d.	Course S. E.
2 "			47	47								
3 "			47	47	46°							
4 "			47	47					1			
5 "			47	47				Var.			f. d.	
6 "			47	47				Calm.	0			
7 "			47	47				S. E.	1	Nimbus	c. u.	Steering to the southward and westward.
8 "			47	47				E. S. E.	4			
9 "			46	46	46°	29·400			8		u. r.	Passed some kelp.
10 "			46	46				S.E.by E.	7			
11 "	D. R.		46	46								
12 "	53° 15′	157° 33′	45	46						Stratus.	c.	
1 P. M.			45	45					8			The Porpoise in company.
2 "			45	45								
3 "			44	45	42°	29·360	44° 36°					
4 "			43	45								
5 "			44	45				S. E.				
6 "			44	46								Albatross, Port Egmont hens, and petrels about the ship.
7 "			43	46								
8 "			43	46				S. S. E.				
9 "			43	46	42°	29·500	43° 35°		7			
10 "			43	46						Cir. stra.		
11 "			43	46					5			
12 "			43	46				South.				
Mean.			45·16	46·12	44	29·420						
Jan. 6.												
1 A. M.			42°	45°				S. S. W.	5	Cir. stra.	c.	Course S. E.
2 "			41	45								
3 "			41	45	40°	29·700	42° 36°					
4 "			41	45								
5 "			42	45				S.W.			b. c.	Saw albatross, penguins, white petrels, &c.
6 "			42	45								
7 "			44	45					4			
8 "			44	45								
9 "			44	46	42°	29·720					c.	
10 "			45	46				West.		Nimbus	c. u.	Passed some kelp.
11 "	OBS.		46	46								
12 "	53° 15′	157° 25′	45	46								
1 P. M.			45	44								Course S. E. by E.
2 "			46	44				N.W.		Cir. stra.	c.	
3 "			48	46	46°	29·680	50° 31°					
4 "			48	46						Clear.	b.	The Porpoise in company.
5 "			48	46								
6 "			46	45						Nimbus	c.	
7 "			45	45					6			
8 "			44	46								
9 "			44	43	42°	29·580		W. N.W.				
10 "			44	43					7		r.	
11 "			44	43								
12 "			44	43					8			
Mean.			44·29	44·91	42·5	29·670						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 7.												
1 A. M.			43°	42°				W. N. W.	8	Over-	o.	Course S. E. by E.
2 "			43	42					9	cast.		Steering to the north-eastward.
3 "			43	42	42°	29·360						
4 "			43	42								
5 "			42	42							m.	Saw several giant petrels and terns.
6 "			41	42				West.				
7 "			41	42					7			
8 "			41	42								Course S. E. by E.
9 "			40	41	38°	29·540		W. S. W.		Cir. stra	c.	
10 "			41	41					5			
11 "			41	40								
12 "	54° 20′	160° 58′	41	40							c. u.	
1 P. M.			44	39				West.	8			Steering to the southward.
2 "			44	39								
3 "			42	39	38°	29·540	43° 30°				g. u.	
4 "			42	38				W. S. W.	9			
5 "			39	39								
6 "			39	39								
7 "			39	39								
8 "			39	39								
9 "			38	38	38°	29·620	39° 29°	S. W.				
10 "			38	38					8			
11 "			38	38								
12 "			38	38								
Mean.			40·83	40·41	39	29·515						
Jan. 8.												
1 A. M.			36°	38°				S. W.	8	Stratus.	g.	Steering to the southward and eastward.
2 "			37	38								
3 "			37	39		29·960						
4 "			38	41								
5 "			38	41								A large number of petrels and terns around the ship.
6 "			38	41								
7 "			39	41								
8 "			39	42						Cir. stra.	c.	
9 "			40	43		29·900	40° 33°					
10 "			39	43					7			
11 "			41	43								
12 "	55° 38′	162° 15′	41	43								
1 P. M.			41	42								Some kelp seen.
2 "			41	44				W. S. W.				
3 "			42	44	36°	30·000	40° 23°		6			The Porpoise in company.
4 "			40	44								
5 "			39	42								
6 "			38	44					5			
7 "			38	43								
8 "			38	41						Stratus.	c. g.	Course south.
9 "			38	41	36°	30·100	40° 28°		4			
10 "			38	41								
11 "			38	41								
12 "			38	41								
Mean.			38·83	41·7	36	29·990						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 9.												
1 A. M.			38°	39°				W. by S.	4	Over-cast.	c. u.	Course south.
2 "			39	40								
3 "			39	39	37°	30·000	38° 23°					
4 "			39	39								
5 "			39	38								
6 "			39	38								
7 "			40	39								
8 "			40	39				West.				
9 "			41	39	40°	30·020	41° 35°					Patches of kelp.
10 "			41	39								
11 "			42	39								
12 "	57° 54′	163° 12′	43	40								Numbers of white petrels about.
1 P. M.			41	39					5			
2 "			41	39								
3 "			41	39	40°	30·000	41° 35°				f.	Course S. by E.
4 "			41	39								Passing through fog banks.
5 "			40	40				W. by N.				
6 "			40	40								
7 "			40	40								
8 "			40	40								
9 "			39	40	38°	29·950	40° 35°				m.	
10 "			39	40								
11 "			38	39								
12 "			39	39							F.	
Mean.			39·96	39·25	38·75	29·992						
Jan. 10.												
1 A. M.			39°	39°				West.	5	Over-cast.	F.	Course S. by E.
2 "			39	39								
3 "			39	39	38°	29·950						
4 "			39	39							f.	
5 "			38	37								
6 "			38	37								
7 "			38	36							m.	
8 "			38	36								
9 "			38	35	38°	29·700	38° 26°	W. by S.				
10 "			37	34							f. r. h. s.	
11 "			37	35								
12 "	61° 05′	164° 05′	37	35								
1 P. M.			36	35					6		s.	
2 "			35	34								
3 "			35	34	35°	29·550						Saw the first iceberg (much worn) and some drift ice.
4 "			34	33								
5 "			33	33						Cir. stra.	g. c.	
6 "												
7 "			33	33								
8 "			33	33								Passed two icebergs.
9 "			33	32	32°				7			
10 "			33	32								
11 "			33	32								
12 "			33	32								Passed three icebergs.
Mean.			35·89	34·75	35·75	29·733						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS.			Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
			Air.	Water.	Mast-head.			Direc.	Force.			
Jan. 11.												
1 A. M.			33°	32°				West.	8	Over-cast.	q. u.	Course S. by E.
2 "			33	32								
3 "			33	32	31°							
4 "			33	32					9			Icebergs and drift ice in sight; giant petrels, Cape pigeons, terns, &c., seen in great numbers.
5 "			32	32								
6 "			32	32								
7 "			33	32				W. by S.	7			
8 "			33	32								
9 "			33	32	32°	29·400	33° 26°					
10 "			33	32								
11 "			33	31								
12 "	63° 32′	164° 55′	33	31					6	Cir. stra.		
1 P. M.			34	31				West.				
2 "			34	31								
3 "			33	31		29·400	34° 26°					
4 "			33	31								
5 "			33	31					5			
6 "			32	31								
7 "			31	31				W. by N.				
8 "			31	31								
9 "			31	31	30°	29·300	32° 23°					Icy barrier in sight from N.W. to E. N. E.
10 "			31	30								
11 "			31	30								
12 "			31	30								Hove to.
Mean.			32·46	31·29	31	29·366						
Jan. 12.												
1 A. M.			30°	30°				N.W.	5	Over-cast.	q.	Hove to.
2 "			30	30								
3 "			30	30	30°							Beating to the westward.
4 "			30	30								
5 "			31	30							f.	Icebergs and drift ice.
6 "			31	30				N. N. W.				
7 "			31	30								
8 "			31	30							f. s.	
9 "			32	30	33°	29·100	Mist.	North.				
10 "			32	30								Cape pigeons and terns.
11 "			32	30					4			
12 "	64° 33′	165° 27′										
1 P. M.			33	30							F. s.	
2 "			33	30				N. N. W.				
3 "			33	30	32°	28·950	Snow.					
4 "			33	30					5		c. f.	The Porpoise parted company.
5 "			32	30								
6 "			32	30								
7 "			31	30								
8 "			31	30							m.	
9 "			31	30	30°	28·880	Mist.					Barrier in sight.
10 "			31	30								
11 "			31	30								
12 "			31	30							f.	
Mean.			31·39	30	31·25	28·977						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 13.												
1 A. M.			31°	30°				N.W.	5	Over-	f. s.	Steering to the N. E.
2 "			31	30						cast.		
3 "			31	30	31°	28·850	Snow.					
4 "			31	30								
5 "			31	30							f.	
6 "			32	30					4			Icebergs and drift ice.
7 "			32	30								
8 "			33	31				W.N.W.				
9 "			33	31	31°	28·800	33° 26°					Steering S. W.
10 "			33	31								
11 "			34	31					2	Cir. stra.	c. f.	
12 "	64° 53′	164° 38′	34	30								Cape pigeons and petrels about the ship.
1 P. M.			34	30							b. c.	
2 "			34	30				West.				
3 "			34	30	32°	28·850	36° 26°			Over-	f.	
4 "			34	30				W. by S.		cast.		
5 "			34	31				W. S. W.				Steering to the west northwest.
6 "			34	31							o.	
7 "			32	31				S.W.				
8 "			32	31								
9 "			32	31	31°	29·000	34° 26°					Icy barrier from N. E. to S. W.
10 "			32	31					4		f. s.	
11 "			31	31								
12 "			30	31								
Mean.			32·46	30·5	31·25	28·875						
Jan. 14.												
1 A. M.			31°	31°				S.W.	4	Stratus.	s.	Steering N. W.
2 "			32	32								
3 "			31	32	30°	29·230	Snow.					
4 "			31	32				W. S. W.				Icebergs and drift ice.
5 "			31	31								
6 "			32	31								
7 "			33	31								
8 "			32	31				West.			f. s.	
9 "			33	31	32°	29·300	34° 26°					Saw a whale.
10 "			34	32					3			
11 "			34	32				W.N.W.				
12 "	63° 55′	164° 01′	35	32								
1 P. M.			33	32					4		f. s. d.	Course S. W.
2 "			33	32								
3 "			33	32	32°	29·200	Snow.					Cape pigeons and petrels.
4 "			32	32								
5 "			32	32				N.W.			s.	
6 "			32	32								
7 "			33	32								Icebergs.
8 "			32	32								
9 "			32	32	31°	28·980	Mist.				f.	
10 "			32	32								
11 "			32	32							F.	
12 "			32	32								
Mean.			32·46	31·75	31·25	29·177						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. and Long.	Photometer.	THERMOMETERS.			Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
			Air.	Water.	Mast-head.			Direc.	Force.			
Jan. 15.												
1 A. M.			33°	32°				N.W.	3		F.	Lying to.
2 "			33	32								
3 "			33	32	31°	28·880	Mist.					
4 "			33	32								
5 "			33	32								
6 "			33	32							s.	Steering S. by W.; no ice in sight.
7 "			33	32								
8 "			33	32								
9 "			33	32	33°	28·900					f.	
10 "			33	32					4			
11 "			34	32								Passed an iceberg.
12 "			34	32						Cir. stra.	c. g.	
1 P. M.			34	32				N. N.W.				
2 "			34	32								Albatross and giant petrels.
3 "			35	32	34°	28·900	34° 24°					
4 "			34	32								
5 "			33	32							f. s.	Icy barrier and number of bergs to the southward.
6 "			33	32							g.	
7 "			33	31					3		f.	
8 "											g. s.	Saw a sperm whale.
9 "			31	30	30°	28·820	Snow.		4			
10 "			31	30						Over-		
11 "			31	30						cast.	F.	
12 "			31	30								
Mean.			32·95	31·6	32	28·875						
Jan. 16.												
1 A. M.			31°	30°				N. N.W.	4	Over-	f. s.	Steering to the westward.
2 "			31	30						cast.		
3 "			31	29	31°	28·760	Snow.					Icy barrier from S. E. to S.W.
4 "			31	29								
5 "			31	30								Ship in sight to the westward.
6 "			32	30							s.	
7 "			32	30								
8 "			32	30								
9 "			33	30	32°	28·700				Stratus.	c.	Many albatross, petrels, and whales seen.
10 "		76°	35	30					3			
11 "		79	37	30				North.				
12 "		72										Photometer placed on capstan.
1 P. M.		56	34	31								
2 "		87	34	31							b. c.	
3 "		46	33	31	32°	28·660	34° 27°		2			Temp. water at 250 fms., 31°; at 850 fms., 31·5°.
4 "		45								Clear.	b.	
5 "		44	34	32					1	Stratus.	b. c.	
6 "		37	33	32								Land in sight to the southward.
7 "		30	32	31				Calm.	0			
8 "		80	32	31				S. E.	2	Clear.	b.	Course W. S. W.
9 "		40	32	31	32°	28·700	32° 29°					Saw a seal.
10 "		24	32	31						Cirrus.	b. c.	Drift ice and bergs in sight.
11 "		21·5	32	31				S. S. E.	1			
12 "		21·5	32	31								
Mean.			32·54	30·5	31·75	28·705						

Lat. 64° 59′ S. Long. 160° 30′ E.

Lat. 66° 00′ S. Long. 159° 02′ E.

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. and Long.	Photometer.	THERMOMETERS.			Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
			Air.	Water.	Mast-head.			Diree.	Force.			
Jan. 17.												
1 A. M.		22°	28°	31°				South.	3		f.	Steering to the northward and westward.
2 "		23	27	31								
3 "		23	28	31	26°	28·780	Mist.					
4 "		25	29	31						Stratus.	s.	Drift ice and bergs, with albatross, petrels, &c. in sight.
5 "			29	32								
6 "			30	32				S.W.	4			
7 "			31	31						Cum. st.	c. g.	
8 "			30	31								
9 "		33	30	31	28°	28·860	31° 21°				b. c.	
10 "		44	31	31								Peacock joined company.
11 "		54	32	32								
12 "		70	33	32				W. S.W.		Cir. stra.	c.	
1 P. M.		39	35	33								
2 "		44	35	33								Steering to the southward and westward.
3 "			33	32		28·860	34° 20°		5			
4 "		30	32	31						Stratus.	c. g.	
5 "			32	30								Peacock parted company.
6 "		28	32	30				West.				
7 "		28	31	30							s.	
8 "		28	31	31					6		c. g.	Porpoise in sight.
9 "		22·5	31	30	30°	28·860	Snow.					Steering to the northward.
10 "		22·5	31	30							s.	
11 "			31	32								Icy barrier in sight.
12 "			31	31								
Mean.			30·96	31·2	28	28·840						
Jan. 18.												
1 A. M.		22·5°	31°	32°				West.	5	Overcast.	q. s.	Steering to the northward and westward.
2 "		22·5	31	32								
3 "		22·5	31	32	30°	28·860	Snow.					
4 "		24	31	32								
5 "		24	31	32							s.	Quantities of medusæ.
6 "		27·5	32	32								
7 "		27	32	32					6			
8 "		47	32	32							o.	
9 "		33	33	32	32°	28·920	Snow.	W. N.W.			s.	Steering to the southward and westward.
10 "		48	33	32								
11 "		50	35	32							o. g.	
12 "			33	32							s.	
1 P. M.		70	35	32					4		o. g.	Icebergs, albatross, and petrels, in sight.
2 "		50	33	31								
3 "		50	33	32	31°	28·880	Snow.				s.	
4 "		42	34	32				N. W.			g.	
5 "		33	33	32							s.	
6 "		36	33	32								
7 "		31	33	32								Peacock in sight to the N. W.
8 "		27							2		g.	
9 "		25	32	31	30°	28·830						
10 "		23	32	31							s.	
11 "		22·5	32	31							g.	
12 "		21	32	30					3			
Mean.			32·5	31·73	30·75	28·872						

Lat. 65° 26′ S. Long. 157° 43′ E.

Lat. 65° 45′ S. Long. 156° 07′ E.

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. and Long.	Photometer.	THERMOMETERS.			Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
			Air.	Water.	Mast-head.			Direc.	Force.			
Jan. 19.												
1 A. M.		21·5°	31°	30°				West.	2		f.	Steering S. S. W.
2 "		21·5	31	30								
3 "		21·5	31	30	30°					Over-	g.	
4 "		25	31	30				Calm.	0	cast.	f.	Drift ice and bergs.
5 "		30	32	30				N.W.	1			
6 "		34	32	30								
7 "		36·5	33	32				Calm.	0			
8 "		38	33	32								Seals, penguins, alba-
9 "		40	35	32	32°	28·760				Cir. st.	c.	tross, Cape pigeons,
10 "		72	38	32							b. c.	and petrels seen.
11 "		54	35	32							c.	Land to the S. E. and
12 "		54	35	32				South.	1			S. W.
1 P. M.		52	34	32								
2 "		32	34	32						Over-	f. s.	Steering to the west-
3 "		61	33	32	32°	28·700	Mist.		3	cast.	f.	ward, along the icy
4 "		52	32	32				S.W.		Stratus.	c.	barrier.
5 "		30	32	31								
6 "		25	31	31							f.	
7 "		25	31	31					2			Saw several sperm
8 "			31	30							g. c.	whales.
9 "			31	32	29°	28·850	33° 28°	W. S.W.	1			
10 "			31	32							f. s.	Clear overhead.
11 "			30	32					2		f.	
12 "								West.	4		b. c.	
Mean.			32·47	31·26	30·75	28·770						
Jan. 20.												
1 A. M.			31°	32°				West.	4	Stratus.	b. c.	Beating to the west-
2 "			30	32								ward along the pack
3 "			30	31	28°	28·850			5			ice.
4 "			30	31								
5 "			31	32				W. S.W.				
6 "			31	32								
7 "			31	32					4			Cape pigeons in great
8 "			31	32							c.	numbers.
9 "		40°	32	33	32°	28·940	31° 26°					
10 "		45	32	33								Steering to the south-
11 "		60	34	33						Cir. st.	b. c.	ward.
12 "		45	35	33						Stratus.	s.	
1 P. M.		35	33	33							s.	Field ice in sight to
2 "		35	33	33								the southeast.
3 "		70	33	33	32°	28·940	Snow.	West.			s. q.	
4 "		55	33	33					5			
5 "		32	32	32								Albatross, petrels, and
6 "		24	32	31								whales.
7 "		24	32	31							s.	
8 "		21	31	31				W. S.W.			c. g.	
9 "		23	31	31		28·940						Great number of ice-
10 "		23	31	31					4		s.	bergs.
11 "		23	31	32							c. g.	
12 "			31	32								
Mean.			31·7	32·04	30·66	28·917						

Lat. 66° 19′ S. Long. 154° 28′ E.

Lat. 65° 41′ S. Long. 153° 31′ E.

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. and Long.	Photometer.	THERMOMETERS.			Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
			Air.	Water.	Mast-head.			Direc.	Force.			
Jan. 21.												
1 A. M.		21°	31°	32°				W. by S.	4	Stratus.	g. c.	Beating to the westward.
2 "		21	32	32								
3 "		23	32	32	31°	29·000	Snow.				s.	
4 "		43	32	32							g. c.	
5 "		48	33	32							s.	
6 "		48	33	32								No ice in sight.
7 "		53	33	32							c. b.	
8 "		50	35	32							o.	
9 "		58	36	32	41°	29·030	36° 26°				b. c.	
10 "			35	32								
11 "		95	35	32								
12 "			34	33								Icebergs in sight.
1 P. M.		95	34	33								Steering to the S. E.
2 "		91	34	34				W. S. W.	3	Clear.	b.	Sperm whales, albatross, petrels, Port Egmont hens, and penguins.
3 "		85	36	34		29·030	36° 28°					
4 "		76	36	34								
5 "		81	35	33				S. W.	2			
6 "		74	35	32								
7 "		80	32	32								
8 "		86										
9 "		61	32	32	36°	29·030	35° 24°	Calm.	0			Icy barrier from N. E. to S. W.
10 "		21	31	32								
11 "		20	30	32						Overcast.	o.	
12 "		20	30	32								
Mean.			33·3	32·39	36	29·022						
Jan. 22.												
1 A. M.		20·5	26°	31°				Calm.	0	Clear.	b.	Steering to the westward.
2 "		19·5	28	32								
3 "		39	29	32	32°	29·030		S. E.	1			Icebergs in great numbers.
4 "		37·5	28	32								
5 "		28	24	31					2	Cir. stra.	b. c.	
6 "		35	24	31								
7 "		36	24	31								
8 "		38	25	31					4			
9 "		41	26	31	24°	29·020		South.			c.	Running along the barrier. Icebergs marked with yellow stains.
10 "		50	25	30								
11 "		54	25	31								
12 "		55	25	31								
1 P. M.		58	25	30								
2 "		59	27	30					3			Penguins, albatross, seals and petrels.
3 "		37	25	30	22°	29·030	30° 20°					
4 "		35	25	30								
5 "		33										Water muddy-green.
6 "		30								Stratus.	c.	
7 "		30	24	30								
8 "		30	24	30								Icebergs from N. E. to S. E., open sea to the S. W.
9 "		40	24	30	23°	29·060	26° 20°				c. g.	
10 "		23	24	30								
11 "		21	24	30								
12 "		20	23	30								
Mean.			25·18	30·63	25·25	29·035						

Lat. 66° 07′ S. Long. 151° 26′ E.

Lat. 66° 12′ S. Long. 149° 44′ E.

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. and Long.	Photometer.	THERMOMETERS.			Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
			Air.	Water.	Mast-head.			Diree.	Force.			
Jan. 23.												
1 A. M.		21°	24°	30°				S.W.	3	Cir. stra.	c.	Steering to the southward and eastward.
2 "		27	24	30								
3 "		24	25	30	24°	29·000	26° 20°					Icy barrier to the S. E.
4 "		25	26	30								
5 "		26	26	30								
6 "		38	26	31								Albatross and penguin.
7 "		46	26	31								
8 "		93	26	31					4	Clear.	b.	
9 "		64	27	30·5	26°	29·030	27° 18°		1	Stratus.	c.	Appearances of land
10 "		85	28	30·5				S[a].		Cir. st.	b. c.	to the S. E. and S. W.
11 "		63	27	30·5								
12 "		84	26	30·5				SWbyW.	2	Clear.	b.	
1 P. M.		32	23	30					3			
2 "		78	25	30								Drift ice and bergs in
3 "		80	26	30	24°	29·050	26° 16°	W. S.W.				great quantities.
4 "		83	25	30								
5 "		76	26	31					4			
6 "		70	26	31						Cirrus.	b. c.	
7 "		70	26	31				West.				
8 "		29	26	31								
9 "		24	26	31	25°	29·100	26° 15°					
10 "		22	26	31						Clear.	b.	
11 "		20	26	30								
12 "		20	26	30								Solid barrier from northeast by the south to west.
Mean.			25·75	30·46	24·75	29·045						
Jan. 24.												
1 A. M.		19°	26°	30°				West.	3	Cir. stra.	b. c.	Steering to the northward and westward.
2 "		21	26	30								
3 "		21	26	30	27°	29·100	27° 18°			Overcast.	o.	
4 "		24	28	30								Packed and drift ice
5 "			27	32					2		s.	with few bergs.
6 "			28	31					1			
7 "			29	32				Calm.	0		s.	
8 "			29	32				West.	1			Penguins.
9 "		70	28	32	30°	29·140				Clear.	b. c.	
10 "		54	29	32				Var.	2			Ice extending from
11 "		50	29	32							s.	northeast by the
12 "		31	29	32								south to north by
1 P. M.		33	26	31				S. E.	1			east.
2 "		42	26	31								Steering to the eastward.
3 "		42	26	31	27°	29·180	Snow.		2			
4 "		48	26	30				South.				Cape pigeons, penguins, and albatross.
5 "		40	27	31								
6 "		38	25	30					3			
7 "		37	25	30·5				S. S.W.				Steering to the southward.
8 "		28	25	30						Stratus.	c.	
9 "		22	24	30		29·200	28° 24°	S.W.				Field ice to the eastward, with many bergs.
10 "		19	24	30								
11 "		19	23	30								
12 "		19	22	29								
Mean.			26·39	30·77	28	29·155						

Lat. 66° 47′ S. Long. 148° 10′ E.

Lat. 66° 38′ S. Long. 147° 10′ E.

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. and Long.	Photometer.	THERMOMETERS.			Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
			Air.	Water.	Mast-head.			Direc.	Force.			
Jan. 25.												
1 A. M.		19°	22°	30°				S. W.	3	Stratus.	c.	Beating to the S. W.
2 "		20	22	30								Icebergs in every direction.
3 "		30	22	30	22°							
4 "			23	30								Saw a rainbow.
5 "		37	22	28				S. S. W.				
6 "		39	24	28						Cir. stra.	b. c.	Drift ice and bergs
7 "		40	24	28				South.				from N. E. to N. W.,
8 "		42	23	28								forming a barrier.
9 "		50	24	27	24°	29·230	28° 18°	S. S. E.				
10 "		58	24	27								Penguins.
11 "		58	24	26								
12 "		65	24	26						Clear.	b.	Made fast to an ice-
1 P. M.		65	22	30				South.				berg and watered
2 "		68	22	30								ship.
3 "			22	29	21°	29·230	26° 20°					Solid barrier to the
4 "			22	29				S. E.				S. E., with land in
5 "												the same direction.
6 "								East.	2			
7 "			22	29						Stratus.	b. c.	Cast off from the berg.
8 "			22	29								Steering to the north-
9 "			23	29	21°	29·200					c. g.	ward.
10 "			23	29					4			Drift ice from N. N. W.
11 "			25	28					7			to south.
12 "			26	28					5		F.	
Mean.			23·05	28·45	22	29·216						
Jan. 26.												
1 A. M.			28°	28°				East.	5	Over-	F. s.	Steering N. N. E.
2 "			28	28						cast.		
3 "			28	28	26°	29·000	Snow.					
4 "			28	28					4	Clear.	b.	
5 "			30	30								
6 "			30	30				S. E.				The Porpoise in sight.
7 "			30	30							m.	Steering to the south-
8 "			30	31								ward and westward.
9 "			28	31	26°	29·120	Mist.					
10 "			28	31					5	Stratus.	c.	Field ice and bergs to
11 "												the S. E.
12 "												Heavy swell from
1 P. M.			29	31								N. W.
2 "			27	30				S. S. E.				
3 "			26	29	23°	29·120			6			Seals and penguins.
4 "			26	30								
5 "			25	29								Surrounded by brash
6 "			24	29				South.				ice.
7 "			24	29					8			
8 "			24	29								
9 "			25	29	24°	29·020		S. S. E.	9			The Porpoise in com-
10 "			25	29								pany.
11 "			25	29								
12 "			25	29								
Mean.			25·13	29·41	24·75	29·087						

Lat. 67° 05′ S. Long. 147° 42′ E.

Lat. 66° 27′ S. Long. 147° 41′ E.

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 27.												
1 A. M.			25°	28°				S.S.E.	8	Stratus.	c. g.	Steering to the westward.
2 "			24	28								
3 "			24	28	22°	29·100		South.	6			Steering to the S. W. through drift ice, field, and bergs.
4 "			24	28								
5 "			24	28								
6 "			24	28				S.S.W.				
7 "			26	27							b. c.	
8 "			27	27				S.W.	5			Penguins and petrels.
9 "			26	30	24°	29·200	29° 15°			Clear.	b.	
10 "			26	29								
11 "			27	29								Lost sight of the Porpoise.
12 "	65° 54′	142° 50′	26	30								
1 P. M.			26	28								
2 "			26	28								
3 "			26	29	26°	29·380	29° 10°					Land to the southward.
4 "			27	29								
5 "			29	30								
6 "			29	30					3			
7 "			29	30								
8 "			29	30								
9 "			28	30	28°	29·500	28° 12°					Icebergs and drift to the S. E.
10 "			28	30				South.	1	Cir. stra.	b. c.	
11 "			27	30								
12 "			27	30								
Mean.			26·41	28·91	25	29·295						
Jan. 28.												
1 A. M.			28°	31°				S. S. E.	3	Stratus.	c.	Steering to the S. W.
2 "			27	30								
3 "			27	30	25°	29·500						
4 "			27	30				S.E.			c. u.	
5 "			26	30					5			Icebergs.
6 "			27	30				E. S. E.				
7 "			28	30						Overcast.	g. u.	
8 "												
9 "			27	30		29·400						Land in sight to the southward.
10 "			27	30					7			
11 "			28	29								
12 "	66° 33′	140° 25′	26	29								
1 P. M.			23	29							q. g.	
2 "			24	27								Steering to the N. E.
3 "			24	28	22°	29·240	Snow.		8		s.	Drift ice and bergs.
4 "			24	27								
5 "			24	27					10		q. s.	
6 "			24	27								Penguins.
7 "			25	28								
8 "			24	28								
9 "			24	28	27°	29·100	Snow.					
10 "			24	28		28·900			11		s.	Drift ice.
11 "			24	29								
12 "			24	29								
Mean.			25·65	28·87	24·66	29·228						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 29.												
1 A. M.								E. S. E.	11	Over-cast.	F. s.	Laying to among drift ice and bergs.
2 "						28·790						
3 "						28·700	Snow.					
4 "						28·680					s.	
5 "						28·590						
6 "						28·570						
7 "						28·570						
8 "			27°	29°								
9 "						28·680						
10 "						28·670			10		s.	
11 "						28·780		S. E.				
12 "	65° 28′	140° 45′									o.	
1 P. M.								S. S. E.				
2 "			28	29					9	Stratus.	c.	
3 "			29	29		29·010		South.				
4 "			29	29					8	Clear.	b.	
5 "			28	29						Cir. stra.	b. c.	
6 "			28	29				S. W.				Drift ice and bergs.
7 "			28	29								Steering to the S. E.
8 "			28	29				W. S. W.				Petreis and penguins.
9 "			28	29	26°	29·150						
10 "			28	29					6	Clear.	b.	
11 "			28	29				S. S. W.				
12 "			28	29					1			Cape pigeons.
Mean.			28·08	29	26	28·744						
Jan. 30.												
1 A. M.			27°	29°				S. W.	1	Cir. stra.	b. c.	Steering to the S. W.
2 "			26	29								
3 "			26	29	24°	29·160						
4 "			26	29				N. E.	4			Land to the S. W.
5 "			26	29								
6 "			26	29								
7 "			26	28				E. N. E.		Stratus.	c. u.	
8 "			26	28					7			
9 "			26	28		29·160				Over-cast.	g. u.	High land in sight bearing south.
10 "			26	28				E. S. E.				Sounded in 25 fathoms, hard bottom.
11 "			26	28		29·100			10		s.	
12 "	66° 13′	140° 02′	26	29		29·040						
1 P. M.			26	29		29·000						Ledges of rock E. ½ S.; and W. N. W. distant 4 miles.
2 "			25	29		28·980			11			
3 "			27	29		28·910	Snow.					
4 "			26	29		28·900			10			
5 "			27	29		28·900						Drift ice and bergs.
6 "			27	29		28·880						Steering to the N. E.
7 "			29	29		28·820						
8 "			29	29		28·800						Penguins.
9 "			29	29		28·800	Snow.		12		s.	
10 "			29	29		28·760						
11 "			29	29		28·760						
12 "			29	29		28·740						
Mean.			26·87	28·79	24	28·919						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 31.												
1 A. M.			29°	29°		28·720		S. E.	12	Over-	q. s. f.	Working ship to keep
2 "			29	29		·720				cast.		clear of drift ice
3 "						·730	Snow.					and bergs.
4 "						·700						
5 "						·700			10			
6 "												
7 "			28	29						Stratus.	c.	
8 "						28·680						
9 "						·620						
10 "						·600				Over-	f.	Much drift ice and
11 "						·600				cast.		many bergs.
12 "	65° 25′	139° 28′				·600						
1 P. M.			29	29		·600			11			
2 "			29	29		·600					q. s.	
3 "			29	29		·600	Snow.					
4 "			29	29		·600						
5 "			29	29		·600						Four bergs in sight.
6 "			29	29		·600				Stratus.	c. g.	
7 "			29	29		·600			10			
8 "			30	29		·660						
9 "			29	29		·700						
10 "			29	29		·700			9			
11 "			29	29		·700						
12 "			29	29		·700						Steering S. W.
Mean.			29	29		28·660						
Feb. 1.												
1 A. M.								S. E.	8	Stratus.	c. g.	Beating to the west-
2 "						28·720						ward.
3 "						·730	Snow.					Icebergs to the west-
4 "						·730			7		s.	ward from north to
5 "						·730						south.
6 "												Seals and penguins;
7 "												a flock of small birds.
8 "										Cir. stra.	b. c.	
9 "						28·760						
10 "									6			Land to the S. and
11 "												S. E.
12 "	65° 53′	137° 51′										
1 P. M.			32°	30°								Steering N. E.
2 "			32	30								
3 "			32	30		28·900			5			No bottom at 45 fa-
4 "			32	30								thoms.
5 "			32	30								Land from W. S. W.
6 "			32	30						Clear.	b.	to S. E.
7 "			31	29								
8 "			30	29								
9 "			29	29		29·000				Cir. stra.	c.	Icebergs and drift ice.
10 "			29	29					4			
11 "			29	29								
12 "			29	29								
Mean.			30·75	29·5		28·796						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 2.												
1 A. M.			30°	30°				S. E.	4	Cir. stra.	b. c.	Steering to the N. W., along a barrier of field ice.
2 "			30	30								
3 "			30	30		29·120						
4 "			30	30								Land in sight to the southward.
5 "			28	29				E.S.E.				
6 "			28	29								
7 "			28	29								Penguins.
8 "			29	29					3			
9 "			34	30		29·250						
10 "			34	30		·300			2			
11 "			35	31								
12 "	65° 01′	135° 42′	35	31		29·320						
1 P. M.			38	29				East.				
2 "			38	29		29·310				Clear.	b.	School of black-fish.
3 "			35	29		·310						
4 "			35	29					2			Black albatross and petrels.
5 "			34	29				E. N. E.				
6 "			33	29						Stratus.	c.	
7 "			33	29		29·350						Appearances of land to the westward.
8 "			33	29				N. E.				
9 "			32	29		29·370					c. g.	
10 "			32	29					4			Icebergs.
11 "			32	29		29·310						
12 "			32	29		·210		E. N. E.	6			
Mean.			32·04	29·04		29·284						
Feb. 3.												
1 A. M.			30°	29°				E. S. E.	5	Stratus.	c. g.	Steering W. N. W.
2 "			32	29								Icy barrier to the westward.
3 "			31	29		29·150	Snow.					
4 "			31	29		·100			6	Over-cast.	s.	
5 "			31	30								Steering to the northward.
6 "			31	30								
7 "			31	32								Flock of small birds about the ship.
8 "			32	32					7			
9 "			33	32		28·800	Snow.					
10 "			33	32		·700						Albatross and petrels.
11 "			33	32		·680		E. by S.			s.	
12 "	63° 49′	134° 03′	33	32		·670			9			
1 P. M.			33	33		·600						Steering to the southward.
2 "			33	33		·600						
3 "			33	33		·580		East.	8			No ice in sight.
4 "			33	33		·580						
5 "			33	33		·560						
6 "			33	33		·520						
7 "			33	32		·500			6			Steering S. S. E.
8 "			33	32		·500		E. by N.				
9 "			31	32		·460	Snow.					
10 "			31	30		·420						
11 "			31	30		·420						
12 "			31	30								
Mean.			32·04	31·33		28·638						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 4.												
1 A. M.			32°	33°				East.	5	Over-cast.	s.	Steering S. S. E.
2 "			32	33								
3 "			32	33		28·340	Snow.					
4 "			32	33								
5 "			32	33								
6 "			32	33					4		s. r. m.	One iceberg and a little drift ice.
7 "			33	33								
8 "			33	33		28·400	Snow.					
9 "			33	33		·440						Steering N. N. E.
10 "			33	33								
11 "			33	33		28·440			3			
12 "	64° 15′	134° 03′	33	33							F.	
1 P. M.			33	32								
2 "			33	32					2			
3 "			33	32		28·540	Mist.					
4 "												
5 "			33	32							f. s.	Albatross and petrels.
6 "			33	32								
7 "			33	32								
8 "			34	32				Calm.	0			
9 "			34	32		28·720		N.W.	1			Steering S. W. by S.
10 "							Mist.		2		F.	
11 "												
12 "												
Mean.			32·8	32·6		28·480						
Feb. 5.												
1 A. M.			32°	32°				W. N.W.	2	Over-cast.	f. s.	Steering to the northward.
2 "			32	32								
3 "			32	32		29·000	Snow.					
4 "			32	32								Heavy irregular swell.
5 "			32	32								Steering S. S. E.
6 "			32	32				West.	1	Stratus.	c. g.	
7 "			33	32								
8 "			34	32				Calm.	0			A few icebergs.
9 "			34	32	33°	29·240		S.W.	1			
10 "			34	32				W. S.W.				Albatross, petrels, whales, and large flocks of small birds.
11 "			34	32								
12 "	64° 06′	133° 43′	34	32					2			
1 P. M.			33	32								
2 "			33	32								
3 "			33	32		29·340		S. E.				
4 "			32	32					5		m.	Steering N. E. by N.
5 "			32	33		29·340						
6 "			32	33							f.	No ice visible.
7 "			32	33								
8 "			32	33							s.	
9 "			32	33	32°	29·340	Snow.				c. g.	
10 "			32	33					6			Two small icebergs.
11 "			32	33								
12 "			32	33		29·340						
Mean.			32·58	32·33	32·5	29·266						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 6.												
1 A. M.			32°	33°				E. S. E.	5	Over-cast.	o.	Steering N. E.
2 "			32	33								
3 "			33	33		29·300						Whales, albatross, petrels, and several flocks of small birds.
4 "			33							Stratus.	c. g.	
5 "			33						6			
6 "			32									
7 "			32							Over-cast.	s.	
8 "			32	33								Little drift ice and a few small bergs.
9 "			32	33		29·220	Snow.	S. E.				
10 "			32	33					5		s. f.	
11 "			32	33								
12 "	63° 50′	134° 20′	32	33								Steering to the southward and westward.
1 P. M.			31	33								
2 "			31	33					6			
3 "			31	33	30°	29·200					s. m.	
4 "			31	33				S. S. E.				
5 "			31	33		29·200	Mist.		4			
6 "			31	33								Icy barrier to the southward, with land in the same direction. Penguins.
7 "			30	33						Stratus.	c. g.	
8 "			30	32					3			
9 "			30	32	29°	29·140						
10 "			30	32								Steering to the eastward.
11 "			30	32								
12 "			30	32				South.			s.	
Mean.			31·37	32·75	29·5	29·212						
Feb. 7.												
1 A. M.			29°	32°				South.	3	Over-cast.	m. s.	Steering east.
2 "			29	32								
3 "			30	31	27°	29·000	Snow.					Land in sight from S. S. W. to S. E.
4 "			30	31								
5 "			30	32				S. by W.				Standing to the westward.
6 "			30	32								
7 "			30	32					4	Stratus.	c.	Icy barrier 200 feet high.
8 "			31	32								
9 "			32	32	28°	29·000						
10 "			31	32								
11 "			32	32					6		c. g.	
12 "	64° 19′	131° 18′	30	32								
1 P. M.			33	32				South.				
2 "			33	32						Cir. stra.	b. c.	
3 "			33	32	33°	28·980		S. S. E.	5			
4 "			33	32								Field ice and bergs.
5 "			31	32								
6 "			31	32					6	Stratus.	c. g.	
7 "			31	32								
8 "			31	32								Steering N. E.
9 "			31	32	29°	29·040		S. E.				
10 "			31	32					4		q. u.	Icy barrier 200 feet high.
11 "			31	32				E. S. E.				
12 "			31	32								
Mean.			31	31·91	29·25	29·005						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 8.												
1 A. M.			32°	32°				E. S. E.	4	Over-cast.	s.	Steering S. S.W.
2 "			32	32								
3 "			32	32		29·040	Snow.				c. g.	
4 "			31	32							s.	Field ice and bergs.
5 "			31	32								
6 "			32	32								Steering to the south-westward.
7 "			32	32								
8 "			32	32				East.	5			
9 "			33	32	31°	29·120				Stratus.	c. g.	
10 "			33	32								Albatross, petrels, and Cape pigeons.
11 "			33	32								
12 "	65° 03′	128° 47′										
1 P. M.			32	32								
2 "			32	32								
3 "			32	32		29·200						Icy barrier in sight to the S.W.
4 "			32	32								
5 "			32	32				S. E.			s.	
6 "			31	31							q.	
7 "			30	31								Steering to the N. E.
8 "			30	31				E. S. E.				Much drift ice.
9 "			31	31	33°	29·200			6			
10 "			31	31								
11 "			32	31								
12 "			32	32					4			
Mean.			31·73	31·73	32	29·140						
Feb. 9.												
1 A. M.			31°	32°				E. S. E.	4	Stratus.	c.	Steering N. E. by E.
2 "			31	32								
3 "			31	31	30°	29·200	Mist.				f.	
4 "			31	31							c.	Field ice and bergs.
5 "			31	31								
6 "			31	31				S. E.		Cir. stra.	b. c.	
7 "			31	31								
8 "			33	31								
9 "			34	32	36°	29·240		South.		Clear.	b.	Steering to the north-west, along the icy barrier distant six miles; land to the southward.
10 "			34	32								
11 "			34	32					3			
12 "	65° 06′	125° 10′										
1 P. M.			34	31				S. S. W.				
2 "			36	31								
3 "			36	31	30°	29·160	35° 24°	S.W.	2			Passing through flow ice.
4 "			34	31								
5 "			33	31								
6 "			32	31								Icebergs.
7 "			32	31								
8 "			31	31								
9 "			30	32	27°	29·120		W. S.W.	3			
10 "			30	32								
11 "			30	32								Aurora australis to the northward.
12 "			30	32								
Mean.			32·17	31·39	30·75	29·180						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 10.												
1 A. M.			31°	32°				W.S.W.	3	Clear.	b.	Running along the barrier to the westward.
2 "			31	32								
3 "			31	32	30°	29·080						
4 "			31	32								
5 "			30	32								
6 "			31	32				S.W.				Field ice and bergs.
7 "			32	32					4			
8 "			31	32				S. S. W.				
9 "			32	31	31°	29·080						
10 "			32	31				South.				
11 "			33	31					5			
12 "	65° 27′	121° 32′	35	31								
1 P. M.			32	31				S. E.				
2 "			32	31								
3 "			31	31	31°	29·080	30° 28°					Passing through brash ice.
4 "			33	31								
5 "			34	31								
6 "			34	32				S. S. E.				
7 "			32	31								
8 "			32	31					4			
9 "			31	31	30°	29·080	30° 24°					Steering N.W.
10 "			31	31								
11 "			31	31				South.		Cir. stra.	b. c.	
12 "			31	31								
Mean.			31·83	31·38	30·5	29·080						
Feb. 11.												
1 A. M.			32°	31°				S. S. W.	4	Cir. stra.	b. c.	Steering N.W.
2 "			31	31								
3 "			28	31	28°	29·080						Extreme point icy barrier, bearing northwest.
4 "			28	31								
5 "			28	31						Stratus.	c. g.	
6 "			28	31								Many whales, penguins, albatross, and flocks of plover.
7 "			28	31								
8 "			29	31								
9 "			29	31	28°	29·080		South.	3			Land to the westward.
10 "			30	31								
11 "			30	31								
12 "	65° 05′	116° 20′	30	31								
1 P. M.			31	31								
2 "			31	31				S. by W.				Extreme point icy barrier, bearing west.
3 "			31	30	30°	29·080	Snow.			Overcast.	s.	
4 "			31	30								
5 "			31	32				S. S. W.				
6 "			31	32								Brash ice and bergs.
7 "			31	32								
8 "			31	32					5			
9 "			31	32	29°	29·100	Snow.	South.				
10 "			31	32								
11 "			31	32					6			Small icebergs, and barrier to the southward.
12 "			31	32								
Mean.			30·12	31·25	28·75	29·085						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 12.												
1 A. M.			31°	32°				S. S. E.	5	Stratus.	g.	Steering to the westward.
2 "			31	32							s.	
3 "			31	32	31°	29·100	Snow.					Icebergs.
4 "			31	32							g.	
5 "			31	32							s.	
6 "			30	32				South.	4			
7 "			31	32								
8 "			31	32								Icy barrier to the
9 "			30	32	27°	29·140		S. S. W.			c.	southward.
10 "			30	32								
11 "			30	32								
12 "	64° 57′	112° 12′	30	32								
1 P. M.			28	29				South.		Cir. stra.		Land in sight from
2 "			28	29								S. W. by S. to W. ¼ N.
3 "			26	29	29°	29·200						
4 "			26	29								White petrels.
5 "			33	30								
6 "			31	30								
7 "			27	31				S. S. E.				Temperature of water at 150 fms., 29°.
8 "			26	31								
9 "			26	31	25°	29·160						Passing through drift ice, the barrier and land in sight to the southward.
10 "			26	31								
11 "			26	30								
12 "			26	30								
Mean.			28·92	31	28	29·150						
Feb. 13.												
1 A. M.								S. S. E.	4	Stratus.	g.	Steering N. W.
2 "												
3 "						29·060						Icebergs.
4 "												
5 "												
6 "												
7 "												Whales and albatross.
8 "												
9 "						29·060		South.	5		c.	
10 "												
11 "												
12 "	65° 19′	107° 22′								Clear.	b.	Much drift ice.
1 P. M.			28°	30°				S. S. W.				
2 "			28	30								
3 "			28	31	27°	29·080						
4 "									4			No bottom at 270 fms.
5 "			28	31								
6 "										Cir. stra.	b. c.	Land bearing S. W. by W.
7 "			27	31				South.				Steering east.
8 "			27	31								
9 "			27	32	26°	29·140			3			Icebergs.
10 "			27	32					2			Barrier in sight to
11 "			28	32				S. S. E.				the S. W.
12 "			28	32						Stratus.	c.	Land to the S. W.
Mean.			27·6	31·2	26·5	29·085						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 14.												
1 A. M.			28°	30°				South.	3	Stratus.	g.	Land from N.W. to S.W. ½ S.
2 "			28	30								
3 "			28	30	27°	29·140						Field ice and bergs.
4 "			28	30								
5 "			27	30						Cir. stra.	c.	
6 "			27	30					2			
7 "			27	30								
8 "			26	30								Standing for the land
9 "			25	30	24°	29·160					b. c.	through brash ice.
10 "			25	30								
11 "			24	29					4			Penguins and albatross.
12 "	65° 59′	106° 14′	25	29						Clear.	b.	Stopped by the ice.
1 P. M.			26	30								
2 "			26	30								
3 "			27	30	25°	29·200						
4 "			27	30								Running through drift and field ice.
5 "			27	30								
6 "			27	30								
7 "			27	30					3			Icebergs covered with sand and stones.
8 "								S. S. E.				
9 "			26	30	25°	29·120						
10 "			26	30						Cir. stra.	c.	Landed on a berg and watered ship.
11 "			26	30								
12 "			26	30								Land in sight to the westward.
Mean.			26·48	29·91	25·25	29·155						
Feb. 15.												
1 A. M.			28°	30°				S. S. E.	2	Stratus.	g.	Steering to the northward, along a solid barrier of ice, with land in sight to the southwest.
2 "			28	30								
3 "			27	30	26°	29·200						
4 "			26	30								
5 "			27	30							s.	
6 "			27	30								
7 "			28	30								
8 "			28	30				South.			c. g.	
9 "			27	31	25°	29·250						Icy barrier discoloured by clay, water a dark olive colour.
10 "			28	31								
11 "			28	31					3			
12 "	64° 46′	104° 20′	28	31				S. S. W.				
1 P. M.			28	30								Whales, penguins, and albatross.
2 "			28	30							s.	
3 "			28	30	27°	29·320	Snow.					
4 "			30	30				S.W.				
5 "			30	30								
6 "			29	30							g.	
7 "			29	30								
8 "			29	30					4			Icy barrier with many bergs in sight.
9 "			27	30	26°	29·380		W. S.W.				
10 "			27	30					5			
11 "			27	30								
12 "			27	30								
Mean.			27·87	30·17	26	29·287						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 16.												
1 A. M.			29°	31°				W. S.W.	4	Stratus.	b. c.	Steering to the N. W.
2 "			29	31								Brilliant Aurora australis to the N. W.
3 "			30	31	29°	29·380						
4 "			28	31				S.W.				
5 "			27	31								
6 "			27	30								Drift ice and bergs.
7 "			28	30						Clear.	b.	
8 "			28	30								Whales, Port Egmont hens, Cape pigeons, penguins, petrels, and flocks of small birds.
9 "			26	30	25°	29·380		S. S. W.	3			
10 "			26	30								
11 "			27	30								
12 "	64° 10′	99° 50′	27	30								
1 P. M.			27	30								
2 "			25	30								
3 "			27	30	24°	29·320		South.				
4 "			25	30								Sea elephant.
5 "			27	30								
6 "			27	30								
7 "			27	30				S. S. E.				Obtained earth and stones from an iceberg.
8 "			24	30								
9 "			24	30	24°	29·260		S. E.				
10 "			25	30						Cir. stra.	b. c.	
11 "			25	30								
12 "			25	30				E. S. E.	2			
Mean.			26·66	30·2	25·5	29·335						
Feb. 17.												
1 A. M.			26°	30°				Calm.	0	Stratus.	g.	Icebergs.
2 "			26	30				S. E.	2			
3 "			27	30	25°	29·200						
4 "			27	30								
5 "			26	30								White terns, whales, and black-fish.
6 "			26	30						Cir. stra.	c.	
7 "			26	30				S. S. E.	3			
8 "			26	30								
9 "			30	30	29°	29·200	31° 22°		5			
10 "			30	30								
11 "			32	30								
12 "	64° 00′	97° 44′	30	30								Icy barrier to the
1 P. M.			31	30					4	Over-	o.	westward from N. to
2 "			31	30						cast.		E. S. E.
3 "			31	30	30°	29·180	34° 23°				s.	High land to the westward.
4 "			31	30								
5 "			31	30								Drift ice and bergs.
6 "			31	30				S. E.		Stratus.	c.	
7 "			29	30								
8 "			28	30						Cumuli.		
9 "			29	30	27°	29·080						Aurora anstralis very
10 "			29	30					2			brilliant to the
11 "			28	30							g. h.	northward.
12 "			28	30								
Mean.			28·71	30	27·75	29·185						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 18.												
1 A. M.			29°	30°				S. E.	3	Cir. stra.	c.	Icebergs.
2 "			29	30								Standing to the N. E.
3 "			29	30	28°	28·940						to clear the barrier.
4 "			29	30								
5 "			29	30						Clear.	b.	
6 "			30	30								
7 "			31	30								
8 "			32	30				S. S. E.	4			
9 "			28	31	27°	28·920	26° 24°					North point of icy
10 "			28	31								barrier bearing N. E.
11 "			29	31								
12 "	63° 31′	98° 47′	29	31								Whales and penguins.
1 P. M.			30	30				South.	3			
2 "			30	30								Steering E. ¼ S.
3 "			29	30	28°	28·920	26° 24°					
4 "			29	30								
5 "			27	30								
6 "			27	30				S. by E.				
7 "			27	30								N. E. point of barrier
8 "			27	30					4			bearing east.
9 "			27	30	26°	28·860						Passed the eastern
10 "			27	30								point of barrier.
11 "			27	30								Aurora australis to
12 "			27	30						Stratus.	c.	the S. E.
Mean.			28·58	30·16	27·25	28·910						
Feb. 19.												
1 A. M.			27°	30°				South.	4	Stratus.	g.	Steering to the east-
2 "			27	30								ward among nume-
3 "			27	30	26°	28·760	Snow.				s.	rous icebergs.
4 "			29	30					6		s.	
5 "			29	30				S. S. E.				
6 "			30	30								
7 "			30	30								Icy barrier to the
8 "			30	30							q. s.	southward.
9 "			32	30	31°	28·760	Snow.	South.	4			Whales.
10 "			32	30								
11 "			33	30				S. S. W.	2			Steering E. S. E. to
12 "	63° 02′	101° 05′	33	30								clear the barrier.
1 P. M.			32	31				Calm.	0		s.	
2 "			32	31						Cir. stra.	c.	
3 "			32	31	30°	28·760	Snow.					
4 "			32	31				S. S. W.	2			
5 "			31	31						Over-	s.	
6 "			31	31						cast.		
7 "			30	30								
8 "			30	30								Barrier trending to
9 "			30	30	28°	28·760	Snow.					N. W.
10 "			30	30				S. W.				
11 "			27	30								Steering N. by W.
12 "			27	30								
Mean.			30·12	30·25	28·75	28·760						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 20.												
1 A. M.			27°	30°				West.	2	Stratus.	c.	Course N. by W.
2 "			27	30								
3 "			27	30	26°	28·840						
4 "			26	30								Barrier of packed ice ahead.
5 "			26	30								
6 "			27	30				W.N.W.	3			Steering E. N. E.
7 "			27	31								
8 "			28	31								
9 "			29	30	25°	28·960			2			Steering N. N. E.
10 "			29	30								
11 "			30	32								
12 "	62° 08′	101° 46′	31	33					1			Whales and icebergs.
1 P. M.			29	30								
2 "			29	30								Temperature of water at 850 fms., 35°.
3 "			29	30	27°	29·040						
4 "			29	30					3	Cir. stra.	b. c.	
5 "			29	32								
6 "			29	32								
7 "			28	31								
8 "			28	31								
9 "			27	31	27°	29·050			2			Great number of ice-bergs.
10 "			27	31						Stratus.	s.	
11 "			27	30								
12 "			27	30								
Mean.			27·68	30·62	26·25	28·972						
Feb. 21.												
1 A. M.			28°	31°				W.N.W.	2	Stratus.	g.	Steering N. by W.
2 "			28	31								
3 "			28	31	27°	28·960	32° 19°					
4 "			27	32								
5 "			28	32				West.		Over-cast.	s.	Drift ice and bergs.
6 "			27	32								
7 "			30	32					3			
8 "			30	32								
9 "			29	32		28·860	34° 24°		2			Beating to the west-ward.
10 "			31	32							g.	Whales and albatross.
11 "			31	32				W.S.W.				
12 "	61° 34′	100° 49′	31	32								
1 P. M.			29	32								
2 "			29	32					4			
3 "			30	32	28°	28·770				Stratus.	c.	
4 "			30	32								
5 "			29	32								
6 "			29	31								Course E. N. E.
7 "			29	31				West.	3			
8 "			28	31								
9 "			29	31	27°	28·670						Passed several ice-bergs.
10 "			29	32								
11 "			29	32								
12 "			30	32								
Mean.			29·37	31·71	27·33	28·815						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 22.												
1 A. M.			30°	32°				West.	4	Cir. stra.	c.	Course E. N. E.
2 "			30	32								
3 "			30	32	29°	28·670						
4 "			30	32								
5 "			30	32								Drift ice and bergs.
6 "			32	32								
7 "			33	32								
8 "			33	32						Stratus.	c. u.	
9 "			32	32				W. N. W.				
10 "			32	32	31°	28·750	34° 26°					
11 "			30	33								
12 "	59° 42′	102° 40′	32	33					5		h.	
1 P. M.			33	33							c.	Course N. E. by E.
2 "			34	34								
3 "			34	34							c. u.	
4 "			34	34	33°	28·980	38° 26°		6			
5 "			34	34								
6 "			34	34								
7 "			34	34					8	Over-cast.	u. q.	
8 "			34	35								
9 "			33	33								
10 "			33	33	31°	29·080			9		q. h.	
11 "			33	34							o. q.	Three icebergs.
12 "			33	34					10			
									9			
Mean.			32·41	33·08	31	28·870						
Feb. 23.												
1 A. M.			32°	35°				N. W.	8	Over-cast.	o.	Course N. E. by E.
2 "			32	35								
3 "			32	35	30°	29·340						
4 "			34	35								Aurora australis in the N. W.
5 "			34	34								
6 "			34	34								
7 "			35	34						Stratus.	c.	
8 "			35	34								
9 "			35	34	34°	29·530	37° 32°		7			Albatross, petrels, and Cape pigeons.
10 "			36	34								
11 "			37	34				N. N. W.	6			
12 "	56° 05′	105° 20′	39	35					7			
1 P. M.			35	35				N. by W.				No ice seen.
2 "			35	35					6			
3 "			37	35	34°	29·680	39° 28°					Course E. N. E.
4 "			37	37								
5 "			37	37								
6 "			36	37								
7 "			35	37								
8 "			35	37								
9 "			36	37						Cir. stra.	b. c.	Aurora australis in the S. E.
10 "			36	37	35°	29·680						
11 "			36	37				N. by E.	5			Steering to the eastward.
12 "			36	37								
Mean.			35·25	35·46	33·25	29·557						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 24.												
1 A. M.			36°	36°				N.E.byN	4	Clear.	b.	Steering to the southward and eastward.
2 "			35	37								
3 "			35	36	34°	29·620						Aurora australis to the southward.
4 "			35	36								
5 "			36	36						Cir. stra.	b. c.	
6 "			36	36				E. N. E.	5			
7 "			36	36						Stratus.	c.	
8 "			36	36							c. m.	
9 "			36	36		29·500	Mist.					Passed a few small
10 "			36	37						Over-	f.	leebergs.
11 "			38	36						cast.		
12 "	55° 06′	109° 32′	37	36								
1 P. M.			37	37					4			
2 "			37	37							f. d.	Porpoises and albatross.
3 "			37	37	36°	29·340	Rain.					
4 "			36	37				N. N. E.				
5 "			38	37								
6 "			37	37				North.	6			Course E. by N.
7 "			38	37							m.	
8 "			38	37				N. by W.			m. d.	
9 "			38	37	37°	29·330	Rain.					
10 "			38	37								Sea slightly phosphorescent.
11 "			37	37								
12 "			37	37					7			
Mean.			36·66	36·58	35·66	29·447						
Feb. 25.												
1 A. M.			37°	37°				N. N. W.	7	Over-	m. d.	Course E. by N.
2 "			37	37						cast.		
3 "			37	37	36°	29·160	Rain.					
4 "			37	37							F. d.	
5 "			39	38					8			Petrels.
6 "			40	39							r. f.	
7 "			40	39								
8 "			41	39					10			
9 "			41	39	40°	28·930	Rain.					
10 "			42	39								
11 "			42	39					11		f.	
12 "	53° 53′	114° 52	42	39								
1 P. M.			41	39								
2 "			41	39								Course East.
3 "			41	39		29·300	Mist.		9			
4 "			40	38						Clear.	b.	
5 "			40	39						Stratus.	c.	
6 "			40	39								
7 "			40	39								
8 "			40	38								
9 "			40	39	38°	29·280			8			Clear overhead.
10 "			40	39								Aurora australis.
11 "			39	39								Sea phosphorescent.
12 "			39	39								
Mean.			39·83	38·54	38	29·167						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 26.												
1 A. M.			39°	39°				N. N.W.	8	Over-cast.	m.	Course East.
2 "			39	39								
3 "			40	39	39°	29·320						
4 "			40	39								
5 "			40	39					10			
6 "			40	39								
7 "			41	39				N.W.				
8 "			41	39								
9 "			41	39	40°	29·440						
10 "			41	39					9			
11 "			44	39								
12 "	52° 42′	120° 37′	44	39								Passed an iceberg.
1 P. M.			42	39								
2 "			42	39				N.N.W.				
3 "			42	39	43°	29·440						
4 "			42	39					8			
5 "			42	39								
6 "			42	39								
7 "			42	39								
8 "			43	40								Course E. N. E.
9 "			44	42	43°	29·500						
10 "			44	42					9			
11 "			44	42							m.	
12 "			44	42								
Mean.			41·79	39·54	41·25	29·425						
Feb. 27.												
1 A. M.			44°	43°				N. N.W.	8	Over-cast.	m. d.	Course E. N. E.
2 "			44	43								
3 "			44	43	42°	29·500						
4 "			44	43								
5 "			45	43				N.W.				
6 "			45	43								
7 "			45	43					7			
8 "			45	43								
9 "			45	43	45°	29·600						Course E. by N.
10 "			46	43								
11 "			46	43							m.	
12 "	51° 47′	127° 07′	46	43								
1 P. M.			48	45								
2 "			47	45								
3 "			48	45	46°	29·600					F.	
4 "			47	45					8			
5 "			47	46							m. d.	
6 "			47	46								
7 "			46	46								
8 "			46	45						Stratus.	g.	
9 "			46	45		29·680			9			
10 "			45	45								
11 "			45	44							f.	
12 "			45	44								
Mean.			45·66	44·04	44·33	29·595						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 28.												
1 A. M.			45°	44°				N.N.W.	9	Over-cast.	F.	Course E. N. E.
2 "			45	44								
3 "			47	45	44°	29·600	Mist.					
4 "			47	45								
5 "			46	44					8		m.	Passed some kelp.
6 "			46	44								
7 "			47	44								
8 "			47	44				N.W.			f.	Albatross.
9 "			47	44	45°	29·680						
10 "			47	44					6		r.	
11 "			47	44								
12 "	50° 32′	131° 40′	47	44					5			
1 P. M.								West.				
2 "									2			
3 "					44°	29·800	Rain.					
4 "									1		F.	Patches of kelp.
5 "												
6 "												
7 "										Stratus.	c. m.	
8 "												
9 "			44	44	44°	29·800	Mist.	Calm.	0			
10 "			44	44							r.	
11 "			44	44				N. E.	1			Steering N.W.
12 "			44	44				E.N.E.	2			Water phosphores-cent.
Mean.			45 25	44·12	44·25	29·720						
Feb. 29.												
1 A. M.			44°	44°				East.	2	Stratus.	r.	Steering N. N. E.
2 "			44	44								
3 "			43	44	44°	29·720	Rain.		3			Albatross and petrels.
4 "			43	44				E. S. E.				
5 "			43	44				South.			c.	Course E. N. E.
6 "			44	44				S.W.				
7 "			44	44							b. c.	
8 "			45	44					2			
9 "			46	44	45°	29·820						
10 "			47	44								
11 "			47	45				Calm.	0			
12 "	50° 02′	133° 11′	48	45						Clear.	b.	
1 P. M.			49	46								
2 "			49	46								
3 "			49	46	50°	29·960	49° 41°	N.W.	2		b. c.	
4 "			51	46								
5 "			52	45						Cir. stra.	c. m.	
6 "			47	45								
7 "			47	45				N. N. W.				Porpoises.
8 "			45	45						Clear.	b. m.	
9 "			45	45	44°	30·040						
10 "			45	45								
11 "			45	45						Stratus.	c.	
12 "			45	45								
Mean.			46·12	44·71	45·75	29·885						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 1.												
1 A. M.			45°	45°				N.W.	3	Cir. stra.	c.	Course E. N. E.
2 "			45	45								
3 "			45	45	45°							Sea phosphorescent.
4 "			45	45								
5 "			45	45								
6 "			45	45								
7 "			47	46								
8 "			47	46								
9 "			47	45	46°	30·100	47° 40°			Clear.	b.	
10 "			48	46								
11 "			48	46								
12 "	49° 25′	135° 50′	49	46				N. N.W.	4			Course E. ¼ N.
1 P. M.			48	46								
2 "			48	46								
3 "			47	46	48°	30·100	46° 40°					
4 "			48	47					3			
5 "			50	49					4			
6 "			50	49				North.				
7 "			46	46								
8 "			46	46								
9 "			46	46	45°	29·900						Aurora australis very brilliant in the southern horizon.
10 "			46	46								
11 "			46	46								
12 "			46	46								
Mean.			46·8	46	46	30·033						
Mar. 2.												
1 A. M.			47°	46°				North.	3	Clear.	b.	Course E. ¼ N.
2 "			47	46						Cir. stra.	b. c.	Aurora australis very faint.
3 "			45	46	45°	29·900						
4 "			45	46								
5 "			46	46								
6 "			46	46								
7 "			46	46								
8 "			47	46								Many albatross, petreis, and Cape pigeons.
9 "			47	48	46°	30·100	46° 42°					
10 "			48	48				N. by E.		Stratus.	c.	
11 "			48	48								Long swell from S.W.
12 "	49° 32′	139° 45′	48	48					4			
1 P. M.			50	49								
2 "			50	49								
3 "			50	49	50°	29·980	50° 46°	N. N. E.				Steering to the eastward.
4 "			50	49								
5 "			50	49				N.E.byN	5			
6 "			50	49							c. u.	
7 "			50	48				N. N. E.	7			
8 "			50	47								
9 "			49	47	47°							
10 "			49	47							c. d.	
11 "			49	47								
12 "								North.				
Mean.			47·82	47·08	47	29·993						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 3.												
1 A. M.			48°	46°				North.	7	Stratus.	r. l.	Steering E. N. E.
2 "			48	46								
3 "			48	46	47°	29·700	Rain.					
4 "			48	46								
5 "			49	47							r.	
6 "			49	47					5			
7 "			49	47								
8 "			50	47								
9 "			50	48	50°	29·700	Rain.			Over-		
10 "			50	48				N. N. W.		cast.	q. p.	
11 "			50	48								
12 "	49° 42′	143° 38′	50	49								
1 P. M.			52	52								
2 "			52	52					4			
3 "			52	52	50°	29·700	58° 48°				c.	
4 "			51	52				N. W.			p.	
5 "			51	51								
6 "			51	51								
7 "			49	51								Course N. N. E.
8 "			49	51				N W by W				
9 "			49	48	48°	29·720			5			Albatross.
10 "			48	48						Stratus.	c.	
11 "			48	48					6			
12 "			49	48								
Mean.			49·58	48·7	48·75	29·705						
Mar. 4.												
1 A. M.			48°	49°				W. N. W.	5	Stratus.	b. c.	Course N. N. E.
2 "			49	50								
3 "			49	50	46°	29·760						
4 "			48	48								
5 "			49	49				West.	4			
6 "			49	49								
7 "			49	49								Course N. by E.
8 "			49	49								Strange sail standing S. E.
9 "			51	50		29·850	49° 42°	S. W.				
10 "			51	51								
11 "			49	51					3			
12 "	47° 23′	146° 34′									p.	
1 P. M.			51	52								
2 "			51	53				W. S. W.			c.	Water dark olive green.
3 "			50	53	49°	29·980	52° 40°					
4 "			50	53								
5 "			50	54						Cum. st.		
6 "			50	54					2			
7 "			50	55				West.				
8 "												
9 "			50	55	50°	29·940	50° 40°					
10 "			50	55								Sea phosphorescent.
11 "			50	55								
12 "			50	55								
Mean.			49·68	51	48·33	29·882						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 5.												
1 A. M.			51°	55°				West.	2	Cum. st.	c.	Course N. by E.
2 "			52	55				Calm.	0			
3 "			52	55	51°		Rain.	North.	3			Steering N. E.
4 "			53	55								
5 "			53	55				N. by E.	2	Nimbus	r.	
6 "			53	55				N.W.	3			Albatross and Port Egmont hens.
7 "			53	55								
8 "			53	55				N. N.W.			c.	
9 "			53	55	52°	29·860	Rain.		4			
10 "			53	55							p.	
11 "			53	55							c.	
12 "	46° 08′	147° 58′	56	55								Water dark green.
1 P. M.			56	53				N.W.				
2 "			56	53							d.	
3 "			56	53	56°	29·860	Rain.		6			
4 "			56	53								
5 "			56	54				W. N.W.			c. q.	Course N. by E.
6 "			56	56						Clear.	b.	
7 "			55	56					5			
8 "			51	56								
9 "			51	56	50°	30·000						
10 "			51	56				West.				
11 "			51	56						Cir. stra.	b. c.	Water phosphorescent.
12 "			51	56								
Mean.			53·37	54·91	52·25	29·906						
Mar. 6.												
1 A. M.			56°	54°				West.	5	Clear.	b.	Course N. 16° E.
2 "			56	55								
3 "			56	57	55°	30·000						Sea very phosphorescent.
4 "			56	58					4			
5 "			56	58								
6 "			56	58						Cir. stra.	b. c.	
7 "			57	58					3			
8 "			58	58								
9 "			60	60	60°	30·100	58° 53°					Water deep blue.
10 "			61	61								
11 "			62	61						Stratus.	c.	
12 "	43° 36′	149° 47′	62	61								Many albatross, petrels, Cape pigeons, and Port Egmont hens.
1 P. M.			61	61					1			
2 "			61	61								
3 "			60	61	58°	30·050	64° 48°			Clear.	b.	
4 "			60	61				Calm.	0			
5 "			59	61				N. E.	2			Steering to the N. W.
6 "			59	61								
7 "			59	61					3			
8 "			58	61				N. N. E.				
9 "			59	59	58°	30·030						
10 "			59	60				N. by E.		Cir. stra.	b. c.	
11 "			59	60								
12 "			59	60								
Mean.			58·71	59·41	57·75	30·045						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 7.												
1 A. M.			60°	60°				North.	4	Stratus.	c.	Steering to the northward and eastward.
2 "			60	60								
3 "			60	60	58°	29·900						
4 "			60	60								
5 "			61	60								
6 "			61	60								
7 "			62	60				N.W.		Nimbus	q. r.	
8 "			62	60								
9 "			63	61	62°	29·870	Rain.				c.	
10 "			63	61					3		c.	
11 "			63	61					6		q·p·	
12 "	42° 35′	151° 25′	62	61					2			
1 P. M.			63	62					3		r.	
2 "			63	62				W. N. W.	4			
3 "			63	62	61°	29·850				Cir. stra.	c.	
4 "			63	62								
5 "			62	62								Water deep blue.
6 "			62	61								
7 "			60	61				West.				
8 "			60	61					5			
9 "			60	62	59°	29·980	59° 56°				c. l.	Course N. by W.
10 "			60	62				W. S. W.				
11 "			60	62								
12 "			60	62					4			
Mean.			61·37	61·04	60	29·900						
Mar. 8.												
1 A. M.			60°	63°				S. W.	4	Cir. stra.	b. c.	Course N. by W.
2 "			60	63								
3 "			60	63	58°				3			
4 "			60	63								
5 "			60	63				S. S. W.		Clear.	b.	
6 "			60	63					2			
7 "			60	63					1			
8 "			65	63				South.				
9 "			62	64	62°	30·010	64° 53°					
10 "			64	64				Calm.	0			
11 "			64	64								
12 "	40° 35′	151° 43′	65	64								Petrels and Cape pigeons.
1 P. M.			64	65								
2 "			62	65				N. by E.	2	Nimbus	c.	Steering to the N. W.
3 "			62	64	61°	29·900	62° 58°					
4 "			62	64					4			
5 "			63	65						Over-cast.	o. u.	
6 "			64	65					6			
7 "			65	65								
8 "			65	65								
9 "			65	65	64°	29·730	Rain.				q. u. p.	
10 "			65	65							o.	
11 "			65	65					5			
12 "			65	65					1		o. l.	
Mean.			62·79	64·08	61·25	29·880						

U. S. SHIP VINCENNES.

ANTARCTIC CRUISE.

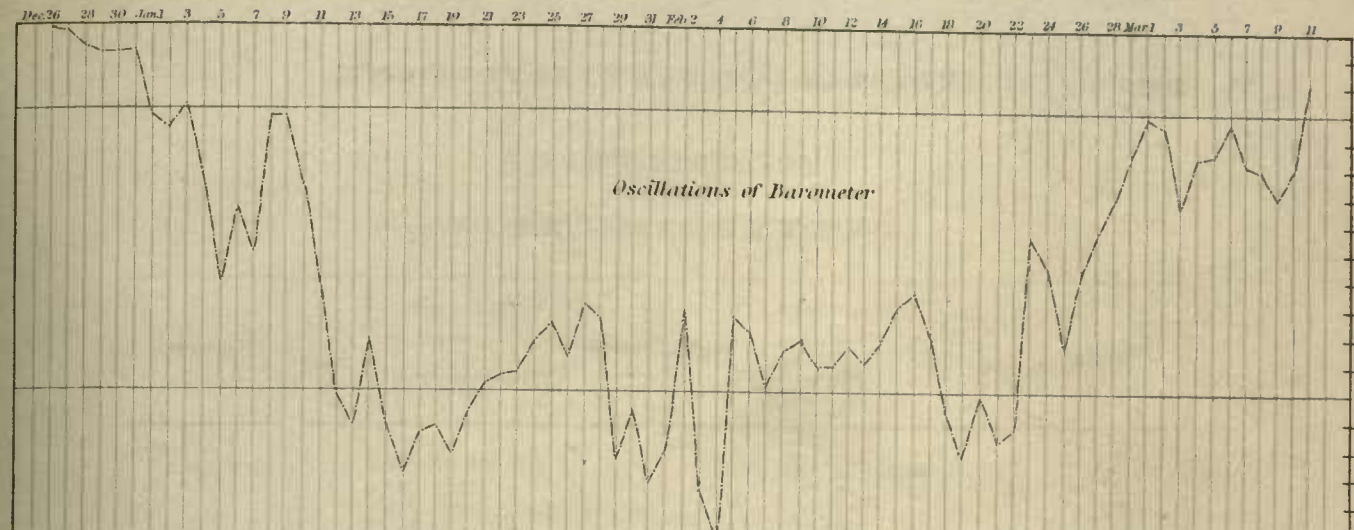
1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 9.												
1 A. M.			65°	65°				N.W.	2	Cum. st.	c. u.	Steering N. N. E.
2 "			65	65				W.N.W.	4			
3 "			64	65	64°	29·700		West.	7			Course North.
4 "			63	65				W. S. W.	6		c.	
5 "			62	65					8			
6 "			62	64								
7 "			62	64					5			A barque in sight, steering S. E.
8 "			63	64								
9 "			63	62	61°	29·800	64° 50°		4			
10 "			62	61				S.W.		Clear.	b.	
11 "			62	63								
12 "	38° 19′	151° 23′										
1 P. M.			65	68				South.	3			
2 "			65	68								
3 "			66	68	64°	29·800	67° 46°					
4 "			66	68						Nimbus	c.	
5 "			65	67				S.S.W.	1			
6 "			65	67				East.	2	Clear.	b.	Swell from the S. W.
7 "			66	68								Steering N. W.
8 "			66	68				N.E.	4			
9 "			65	66	64°	29·830				Cum. st.	c.	
10 "			65	66							q. c.	
11 "			68	72					6			
12 "			68	72								
Mean.			64·47	66·18	63·25	29·782						
Mar. 10.												
1 A. M.			68°	72°				N.N.E.	5	Clear.	b.	Steering N. W.
2 "			68	72								A very large brilliant
3 "			68	72	66°	29·720						meteor in the N.W.
4 "												
5 "			69	72								
6 "			66	68				North.				Steering E. N. E.
7 "			66	68								
8 "			66	68				N.W.				
9 "			66	68		29·880	66° 58°		4			Course N. N. E.
10 "			66	68								
11 "			68	69				West.				
12 "	36° 30′	150° 50′	68	69								
1 P. M.			68	69								
2 "			68	70					5			
3 "			68	70	66°	29·920	71° 63°	S.W.				
4 "			68	70								
5 "			68	70					6			
6 "			67	71				South.				
7 "			68	72								
8 "			68	72				S. S. E.		Cir. stra.	b. c.	
9 "			69	73		30·100						
10 "			69	73								
11 "			69	73					5			
12 "			70	72								
Mean.			67·78	70·47	66	29·905						

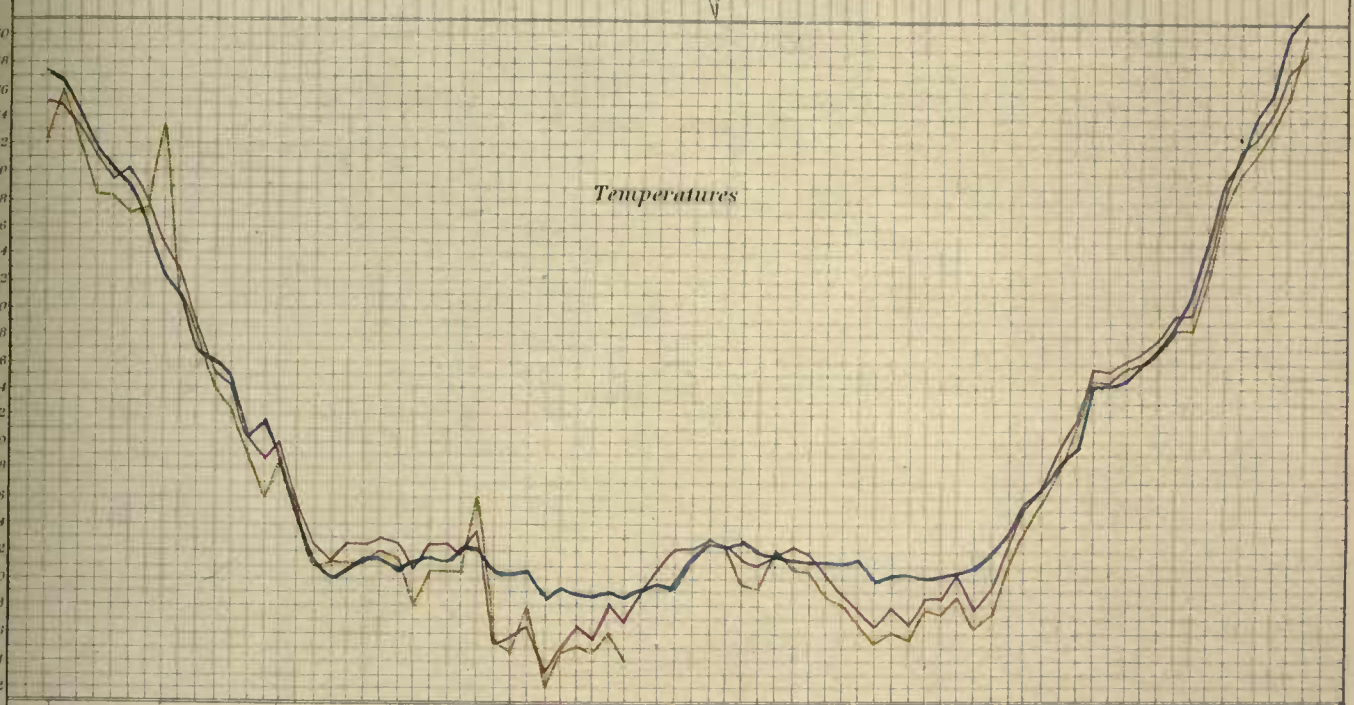
U. S. SHIP VINCENNES.

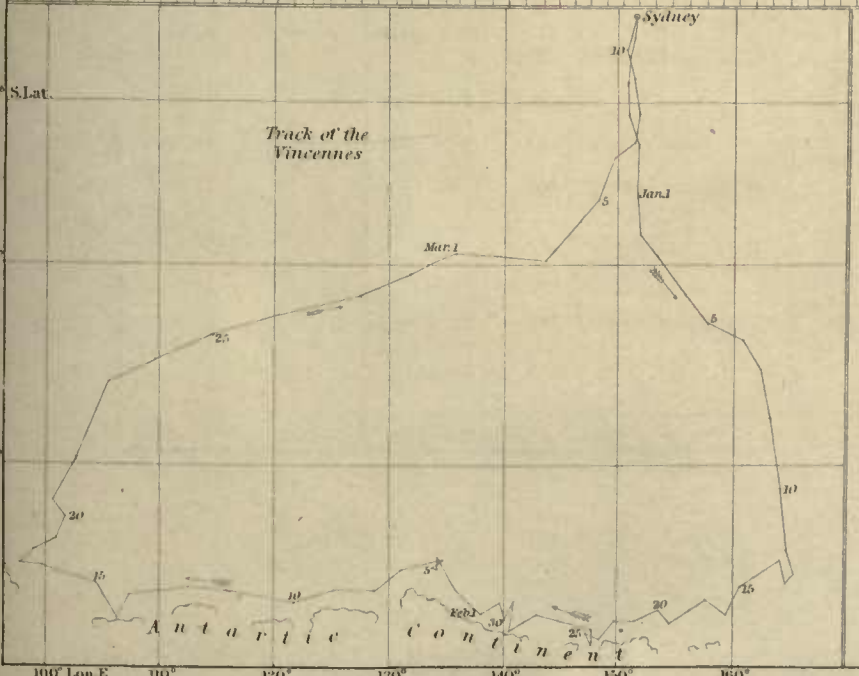
ANTARCTIC CRUISE.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 11.												
1 A. M.			68°	73°				S. S. E.	5	Cir. stra.	b. c.	Course N. N. E.
2 "			67	73								
3 "			67	73								
4 "			67	73								
5 "			70	74						Stratus.	c. u.	
6 "			70	74								
7 "			66	70								
8 "			66	70						Cum. st.	c.	
9 "			69	71	70°	30·210	Rain.				r.	
10 "			69	71							c. d.	Standing in for Sydney, N. S. Wales.
11 "			69	71								
12 "			69	71								
1 P. M.												
2 "								S. E.				
3 "									4			
4 "								East.			c. p.	Anchored in Port Jackson, in 7 fathoms water.
5 "												
6 "									3			
7 "												
8 "								Calm.	0			
9 "						30·200	Rain.					
10 "								West.	1			
11 "												
12 "												
Mean.			68·08	72	70	30·205						
Mar. 12.												
1 A. M.			70°	72°				West.	1	Nimbus	c. p.	
2 "			67	71								
3 "			67	71	66°							
4 "			67	71								
5 "			67	72								
6 "			68	72								
7 "			68	72								
8 "			69	73						Cum. st.	c.	
9 "			70	72	71°		78° 70°	Calm.	0			
10 "			71	72								
11 "			71	72				E. S. E.	2	Clear.	b.	
12 "			71	72								
1 P. M.			71	72					3			
2 "			72	72								
3 "			72	72	71°	30·000	78° 70°	East.				
4 "	Sydney, N. S. W.		73	72								
5 "			73	72								
6 "			73	72								
7 "			73	72				Calm.	0			
8 "			73	72								
9 "			71	72				West.	3	Cirrus.	b. c.	
10 "			70	71								
11 "			70	71								
12 "			70	71								
Mean.			70·29	71·79	69·33	30·000						

METEOROLOGY. Plate XI.







DIAGRAM

Shewing the
Track of the Vincennes
along the Antartic Continent
together with the
Oscillations of the Barometer
and
Variations of Temperature
1839. 40

Explanations.

- Track
- Air
- Mast head
- Water
- Barometer

U.S. Exploring Expedition.

U. S. SHIP VINCENNES.

SYDNEY, NEW SOUTH WALES.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 13.												
1 A. M.			69°	71°				Calm.	0	Clear.	b.	
2 "			69	71								
3 "			68	71	68°	28·850						
4 "			68	71								
5 "			66	71				West.	2			
6 "			66	71								
7 "			67	71								
8 "			72	72						Cum. st.	b. c.	
9 "			72	72	70°	29·920			4			
10 "			82	72				W. N. W.				
11 "			82	72					7		q. c.	
12 "			82	72					4		b. c.	
1 P. M.			84	72					8		q.	
2 "			85	72					4	Clear.	b.	
3 "	Sydney, N. S. W.		86	72	84°	29·650		W. S. W.				
4 "			86	72								
5 "			85	72								
6 "			85	72					3			
7 "			82	72								
8 "			80	71								
9 "			75	71		29·740		S. W.	2	Cir. stra.	b. c.	
10 "			74	71								
11 "			75	71								
12 "			75	71								
Mean.			76·46	71·5	74	29·540						
Mar. 14.												
1 A. M.			73°	71°				S. W.	1	Cir. stra.	b. c.	
2 "			73	71								
3 "			72	71	70°							
4 "			70	71				Calm.	0			
5 "			65	70								
6 "			63	70								
7 "			65	70								
8 "			67	70						Clear.	b.	
9 "			71	71	70°	30·000	74° 44°					
10 "			71	71				S. E.	2			
11 "	Sydney, N. S. W.		71	71						Cum. st.	b. c.	
12 "			69	71								
1 P. M.			70	71								
2 "			72	71						Clear.	b.	
3 "			73	71	72°				3			
4 "			73	71								
5 "			74	71								
6 "			74	71								
7 "			74	71						Stratus.	c.	
8 "			74	71					1			
9 "			74	71	72°	30·100	69° 60°	W. N. W.	2			
10 "			74	71						Cir. stra.	b. c.	
11 "			73	71								
12 "			73	71								
Mean.			71·16	70·83	71	30·050						

U. S. SHIP VINCENNES.

SYDNEY, NEW SOUTH WALES.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 15.												
1 A. M.			62°	71°				Var.	1	Cir. stra.	b. c.	
2 "			62	71								
3 "			62	71	60°	30·100						
4 "			62	71								
5 "			62	71				Calm.	0			
6 "			62	71								
7 "			63	71								
8 "			64	71								
9 "			71	71	70°	30·150	74° 60°	North.	1	Clear.	b.	
10 "			72	71								
11 "			73	71								
12 "			74	71								
1 P. M.			74	71								
2 "			74	71				S. E.	3			
3 "			73	71	71°							
4 "			73	71								
5 "			70	71								
6 "			70	70					4			
7 "			70	70								
8 "			70	70								
9 "			70	70	70°	30·130	71° 68°				b. w.	
10 "			70	71					3			
11 "			69	71								
12 "			68	71					1			
Mean.			68·33	70·83	67·75	30·126						
Mar. 16.												
1 A. M.			67°	72°				Calm.	0	Clear.	b. w.	
2 "			67	72								
3 "			66	71	65°							
4 "			65	71								
5 "			66	71				West.	1			
6 "			66	71								
7 "			67	71								
8 "			68	71								
9 "			72	71	71°	30·120		N. E.	3	Cum. st.	c.	
10 "			79	71								
11 "			79	72								
12 "			80	72								
1 P. M.			75	72								
2 "			75	72					4			
3 "			75	72	73°							
4 "			75	72								
5 "			74	72								
6 "			74	72				E. N. E.				
7 "			72	71						Cum.		
8 "			72	71								
9 "			71	71	70°							
10 "			70	71				East.	2	Clear.	b. w.	
11 "			70	70					1			
12 "			70	70								
Mean.			71·46	71·33	69·75	30·120						

Sydney, N. S. W.

Sydney, N. S. W.

U. S. SHIP VINCENNES.

SYDNEY, NEW SOUTH WALES.

1840.	Lat. South.	Long. Esst.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 17.												
1 A. M.			69°	72°				Calm.	0	Clear.	b. w.	
2 "			68	72								
3 "			66	72	64°		Dew.					
4 "			66	72								
5 "			66	72				S. S. W.	1			
6 "			66	72							b.	
7 "			67	72								
8 "			68	72				S. W.	3	Cum.	c.	
9 "			72	72	67°							
10 "			80	72								
11 "			80	72								
12 "			80	72				West.			b. c.	
1 P. M.			82	72								
2 "			84	72				S. W.				
3 "			90	74	89°	30·100						
4 "			87	74				S. S. W.	4	Clear.		
5 "			80	74								
6 "			80	74					7		q. b.	
7 "			69	72					4			
8 "			68	70				S. S. E.	5			
9 "			67	71	67°	30·200				Cum. st.	c. q.	
10 "			65	71					8			
11 "			65	71					4			
12 "			65	71					2			
Mean.			72·91	72·08	71·75	30·150						
Mar. 18.												
1 A. M.			65°	70°				S. S. E.	2	Nimbus	c. d.	
2 "			65	70								
3 "			64	70	63°	30·180	Rain.					
4 "			64	70				South.				
5 "			64	70								
6 "			64	70								
7 "			64	70				S. W.			c. p. d.	
8 "			63	71								
9 "			64	71	63°	30·280			1	Cir. stra.	b. c.	
10 "			65	71								
11 "			65	71				South.		Clear.	b.	
12 "			66	71								
1 P. M.			68	71								
2 "			69	71								
3 "			70	71	69°	30·300	72° 34°					
4 "			70	71								
5 "			66	71								
6 "			65	71					2			
7 "			63	71						Cirrus.	b. c.	
8 "			63	70								
9 "			65	70	63°	30·300		Calm.	0	Cum. st.	c.	
10 "			65	70								
11 "			64	70				Var.	1			
12 "			64	70								
Mean.			65·21	70·5	64·5	30·285						

Sydney, N. S. Wales.

Sydney, N. S. Wales.

U. S. SHIP VINCENNES.

FROM SYDNEY, N. S. W., TO BAY OF ISLANDS, N. Z.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 19.												
1 A. M.			69°	72°				N.W.	1	Clear.	b. w.	
2 "			69	72								
3 "			68	72	67°		Dew.					
4 "			68	72								
5 "			61	71				North.				
6 "			62	70							b.	
7 "			62	70					2			
8 "			68	71				N.N.E.				
9 "			69	71								
10 "			69	71					3			
11 "			69	72								
12 "			69	72								
1 P. M.								North.				Got under way and
2 "										Cir. stra.	b. c.	went to sea.
3 "									4			
4 "												
5 "	Sydney, N. S. W.		70	72				N.E.				
6 "			70	72								Lighthouse bore SSW.
7 "			70	72								distant two miles.
8 "			69	70								
9 "			68	70	68°	30·100			3			
10 "			67	68				E. by N.		Clear.	b. w.	Water deep blue.
11 "			67	70								
12 "			67	70					2			
Mean.			67·55	71	67·5	30·100						
Mar. 20.												
1 A. M.			66°	70°				East.	2	Clear.	b. w.	Steering to the north-
2 "			66	70								ward.
3 "			66	70	66°	30·100						
4 "			66	70								
5 "			68	70								
6 "			68	70							b.	
7 "			70	71								
8 "			71	72								
9 "			71	72	71°	30·180	72° 60°		3			
10 "			71	72				E. N. E.				Steering southeast.
11 "			72	73								
12 "	33° 53′	151° 54′	72	70					4			
1 P. M.			71	68								
2 "			71	68								
3 "			70	69		30·220			3			
4 "			72	69						Cum. st.	b. c.	
5 "			72	71								
6 "			71	70								
7 "			71	70						Cumuli.	c.	
8 "			69	70					4			
9 "			69	70	68°	30·200		N.E.	5			Steering E. S. E.
10 "			69	70							c. l.	
11 "			69	71								
12 "			69	71								
Mean.			69·58	70·29	68·33	30·175						

U. S. SHIP VINCENNES.

FROM SYDNEY, N. S. W., TO BAY OF ISLANDS, N. Z.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 21.												
1 A. M.			68°	70°				N. E.	5	Nimbus	c. l.	Steering to the southward and eastward.
2 "			68	69								
3 "			66	69	66°						p.	
4 "			66	69							c. l.	
5 "			65	69				N. by E.				
6 "			69	70							r.	
7 "			69	70					4			
8 "			70	71						Cum. st.	c.	
9 "			70	70	69°	30·120	68° 56°	N. E.	3			
10 "			70	70								
11 "			70	71								
12 "	35° 26′	154° 22′	70	71						Clear.	b.	
1 P. M.			70	70				N. by E.	2			
2 "			70	70								
3 "			70	71		30·080	79° 59°	N. by W.				
4 "			70	71								
5 "			70	71				Var.	1		b. c.	
6 "			68	71				Calm.	0			Heavy nimbus to the eastward.
7 "			68	71				E. S. E.	1			
8 "			68	70							b. m.	Course N. E. by E.
9 "			67	70	66°	30·140	69° 54°	S. E.				
10 "			66	70					2			
11 "			66	70							b.	
12 "			66	70								
Mean.			68·33	70·16	67	30·113						
Mar. 22.												
1 A. M.			65°	72°				S. E.	2	Clear.	b.	Course N. E. by E.
2 "			65	72								
3 "			65	72	62°	30·060	66° 62°			Nimbus	c. u.	
4 "			65	72								
5 "			66	71								
6 "			66	71								
7 "			67	72								
8 "			67	72								
9 "			65	72	65°	30·120	Rain.		1		r.	
10 "			65	72								
11 "			65	72				Calm.	0	Cum. st.	c. u.	
12 "	34° 54′	156° 11′	70	72				S. E.	1			
1 P. M.			69	72								
2 "			69	72					3			
3 "			68	71	68°				4			Clear overhead.
4 "			68	71								
5 "			70	71					1			
6 "			68	71								
7 "			67	71								
8 "			66	70				Calm.	0			
9 "			66	70	66°	30·080						
10 "			66	70				N. W.	1			
11 "			65	70								
12 "								Calm.	0			
Mean.			66·65	71·35	65·25	30·086						

U. S. SHIP VINCENNES.

FROM SYDNEY, N. S. W., TO BAY OF ISLANDS, N. Z.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 23.												
1 A. M.			66°	70°				N.W.	1	Clear.	b. w.	Course N. E. by E.
2 "			66	70								
3 "			66	70	65°	30·000			2			
4 "			66	70								
5 "			66	71								
6 "			67	71				W.N.W.	3			
7 "			68	71								
8 "			68	71								
9 "			68	71	67°	30·020	68° 60°					
10 "			69	71								
11 "			71	71								
12 "	34° 14′	157° 16′	71	71								
1 P. M.			72	72					1			
2 "			72	72								
3 "			73	72	72°	30·000	76° 72°				b. c.	Spoke French whaling barque "Ville de Bordeaux." Supplied her with provisions and water.
4 "			74	73								
5 "			74	73				Calm.	0			
6 "			72	73				North.	1			
7 "			72	73					3			
8 "			71	73						Clear.	b.	Steering E. N. E.
9 "			70	75	70°	30·000	76° 74°					Quantities of medusæ.
10 "			70	75							b. w.	
11 "			70	75								
12 "			70	75					4		b. c. l.	
Mean.			69·66	72·04	68·5	30·005						
Mar. 24.												
1 A. M.			70°	75°				North.	4		b. c. l.	Steering E. N. E.
2 "			70	75								
3 "			70	75	72°	30·000	70° 56°					
4 "			70	75								
5 "			71	76				N. by E.				
6 "			71	76					3			
7 "			71	76					2			
8 "			71	76						Cum. st.	c. u.	
9 "			73	76	74°	30·120	74° 65°	N. E.				Water slate colour.
10 "			71	76					3		p.	Medusæ in great quantities.
11 "			69	71							c.	
12 "	33° 57′	159° 02′										
1 P. M.			70	71				N. by E.				Course E. N. E. ½ E.
2 "			69	71					5			
3 "			65	71	65°	30·120	Rain.				r.	
4 "			65	71					4			
5 "			66	68							c.	
6 "			66	68				North.				
7 "			66	69								
8 "									3	Clear.	b.	
9 "			68	70	67°	30·130				Cum. st.	b. c.	
10 "			69	70					4			
11 "			68	70								
12 "			68	70								
Mean.			68·95	72·33	69·5	30·092						

U. S. SHIP VINCENNES.

FROM SYDNEY, N. S. W., TO BAY OF ISLANDS, N. Z.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 25.												
1 A. M.			68°	70°				N.W.	3	Clear.	b. w.	Course E. N. E. ½ E.
2 "			68	70								
3 "			68	70	67°			West.	2			
4 "			68	70								
5 "			68	71					1		b.	
6 "			69	71								
7 "			69	71				Calm.	0			
8 "			73	72								
9 "			74	72	73°	30·260	74° 68°					
10 "			74	72				N. E^{d}.	1			
11 "			73	73								
12 "	34° 21′	160° 53′	73	72					2	Cirrus.	b. c.	
1 P. M.			75	73				North.	1			
2 "			76	74					2			
3 "			76	74	75°	30·220	73° 67°					
4 "			76	74				N. N. W.				
5 "			76	74								
6 "			74	74								
7 "			73	73								
8 "			73	73								
9 "			71	72	70°	30·280	73° 67°		3	Cum.		A brilliant meteor in the N. E.
10 "			71	72					2			
11 "			70	71								
12 "			70	71								
Mean.			71·91	72·04	71·25	30·253						
Mar. 26.												
1 A. M.			70°	74°				N. N. W.	3	Cum.	b. c.	Course E. N. E. ½ E.
2 "			70	73								
3 "			70	73	71°	30·200	70° 68°		4			
4 "			72	73					5			
5 "			72	73								
6 "			72	72								
7 "			72	73						Clear.	b.	
8 "			72	71					4			
9 "			72	71	71°	30·300	72° 66°					
10 "			72	71				North.				
11 "			72	71								
12 "	34° 24′	163° 33′	72	71					3			Water deep blue.
1 P. M.			72	70				N. by W.				
2 "			71	70					4	Cirrus.	b. c.	
3 "			71	70		30·280	71° 64°					
4 "			72	70								
5 "			73	70								
6 "			74	70						Clear.	b.	
7 "			70	70								
8 "			69	70								
9 "			69	69	68°	30·260					b. w.	
10 "			69	69								
11 "			69	69								
12 "			69	69								
Mean.			71·08	70·91	70	30·260						

U. S. SHIP VINCENNES.

FROM SYDNEY, N. S. W., TO BAY OF ISLANDS, N. Z.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 27.												
1 A. M.			69°	70°				N. N.W.	4	Clear.	b. w.	Course E. N. E. ½ E.
2 "			69	69								
3 "			68	70	67°	30·200						
4 "			68	70						Cum. st.	c.	
5 "			69	70								
6 "			69	70							c. u.	
7 "			70	70								
8 "			70	70						Nimbus	d. u.	
9 "			71	70	70°	30·220	72° 66°				c. u.	Sperm whales.
10 "			71	72				N.W.				
11 "			72	72						Cum. st.		
12 "	34° 16′	166° 10′	71	72							r.	
1 P. M.			67	71				West.	3			
2 "			68	71								
3 "			68	70	67°	30·180	Rain.	S.W.	2			
4 "			68	70						Cum.	c.	
5 "			67	70				South.				
6 "			67	70					4		c. d.	
7 "			67	70				S. S. E.				
8 "			68	70								
9 "			66	70	65°	30·200	Rain.		5			
10 "			66	70					6			Water phosphores-cent.
11 "			66	70								
12 "			67	70							c.	
Mean.			68·41	70·29	67·25	30·200						
Mar. 28.												
1 A. M.			67°	69°				S. S. E.	6	Cum.	b. c.	Course E. N. E. ½ E.
2 "			67	69								
3 "			67	69	66°	30·110					c.	
4 "			67	69								
5 "			66	69							b. c.	
6 "			66	69				South.				
7 "			66	69					5	Clear.	b.	
8 "			66	69								
9 "			65	67	64°	30·120						
10 "			65	68					6			
11 "			67	68						Cum. st.	b. c.	
12 "	33° 49′	169° 33′	68	70								
1 P. M.			67	70								
2 "			66	70							c. p.	
3 "			66	70	65°	30·100	Rain.					
4 "			66	70								
5 "			66	70								
6 "			66	70							d.	
7 "			66	70								
8 "			66	70								
9 "			65	70	65°	30·100					b. c.	Brilliant meteor from the southwest towards north, over an arc of 35°.
10 "			65	69								
11 "			65	68								
12 "			65	68								
Mean.			66·08	69·21	65	30·107						

U. S. SHIP VINCENNES.

FROM SYDNEY, N. S. W., TO BAY OF ISLANDS, N. Z.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 29.												
1 A. M.			64°	64°				South.	5	Cum.	b. c.	Course E. N. E. ½ E.
2 "			63	64								
3 "			63	67	63°							
4 "			64	68								
5 "			66	69					4			
6 "			66	70						Clear.	b.	
7 "			65	70					3			Land birds around the ship.
8 "			66	70								
9 "			66	70		30·040	66° 55°					
10 "			66	70						Cum.	b. c.	New Zealand in sight to the southward.
11 "									4			
12 "	33° 45′	173° 01′										
1 P. M.			68	71								
2 "			68	71								
3 "			68	71	66°	29·930	68° 58°	S. S. W.				
4 "			68	71					5			Course S. E. ½ S.
5 "			67	70				S.W.				
6 "			66	70					6	Cum. st.	c.	
7 "			66	70								
8 "			65	70								
9 "			64	68	64°	29·930						
10 "			66	68					5			
11 "			64	68								
12 "			64	68					4			
Mean.			65·59	69·05	64·33	29·966						
Mar. 30.												
1 A. M.			64°	67°				S. S.W.	4	Cum.	b. c.	Beating to the southward; land in sight to the S.W.
2 "			64	67								
3 "			64	68	64°							
4 "			64	68								
5 "			63	68					3			
6 "			63	68				S.W.				
7 "			63	68								
8 "			65	69								
9 "			65	69	64°	29·920						
10 "			66	69					2			
11 "			66	69				S. S.W.		Clear.	b.	
12 "	35° 08′	174° 19′	67	70								Beating up for the Bay of Islands.
1 P. M.			66	69						Cum. st.	c.	
2 "			66	68							c. p.	
3 "			66	68	66°	29·880					c.	
4 "			65	68								
5 "			65	68					3			
6 "			64	67						Clear.	b.	The Porpoise and Flying-Fish in sight at anchor.
7 "			63	67								
8 "			63	67								
9 "			63	67	63°							
10 "			63	67					2			Anchored.
11 "			63	67								
12 "			62	67								
Mean.			64·29	67·91	64·25	29·990						

U. S. SHIP VINCENNES.

BAY OF ISLANDS, NEW ZEALAND.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 31.												
1 A. M.			57°	65°				N. W.	1	Clear.	b. w.	
2 "			57	65								
3 "			56	66	55°							
4 "			54	66				West.				
5 "			55	66							b.	
6 "			56	66				W. S. W.	2			
7 "			56	66								
8 "			57	66						Cum. st.	b. c.	
9 "			61	67	60°	29·940		Var.	1			
10 "			63	67							c. d.	
11 "			65	67				Calm.	0			
12 "			65	67								
1 P. M.			66	67								
2 "			66	67				S. E.	1		b. c.	
3 "			66	67	65°							
4 "			65	67						Clear.	b.	
5 "			65	67								
6 "			64	64								
7 "			60	61								
8 "			58	60					2			
9 "			58	67	57°	30·020						
10 "			57	67				South.	1		b. w.	
11 "			57	67								
12 "			57	67								
Mean.			60·04	65·91	59·25	29·980						
April 1.												
1 A. M.			55°	66°				S. S. E.	1	Clear.	b. w.	
2 "			55	66								
3 "			54	66	53°	30·020	Dew.					
4 "			53	66								
5 "			53	66							b.	
6 "			54	66						Cir. stra.	b. c.	
7 "			55	66								
8 "			55	66				South.	2		c.	
9 "			64	67	64°	30·080	61° 54°					
10 "			65	67								
11 "			66	67				S. S. W.		Clear.	b.	
12 "			68	67					3			
1 P. M.			68	67								
2 "			68	67								
3 "			68	67	66°	30·080	73° 48°	South.	2			
4 "			68	67								
5 "			66	67								
6 "			65	67								
7 "			64	67								
8 "			63	67								
9 "			62	66	61°		65° 51°		1	Stratus.	c.	
10 "			60	66								
11 "			60	66								
12 "			60	66								
Mean.			61·2	66·5	61	30·060						

Bay of Islands, N. Z.

U. S. SHIP VINCENNES.

BAY OF ISLANDS, NEW ZEALAND.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 2.												
1 A. M.			57°	66°				Calm.	0	Cum.	c.	
2 "			57	66								
3 "			57	66	56°							
4 "			57	66								
5 "			57	66				West.	1			
6 "			58	66								
7 "			58	66					2			
8 "			66	66					1			
9 "	Bay of Islands, N. Z.		66	66	65°	30·180		Calm.	0			
10 "			69	66								Boats surveying.
11 "			69	67								
12 "			71	67				Var.	1	Cir.cum	b.c.	
1 P. M.			70	67								
2 "			68	67								
3 "			68	67	65°	30·140	68° 57°			Nimbus		
4 "			68	67								
5 "			67	67				S. E.	2		d.	
6 "			66	67								
7 "			62	67								
8 "			61	66								
9 "			60	66	58°	30·180				Cum. st.	c.	
10 "			60	66								
11 "			60	66				S. S. E.				
12 "			59	66								
Mean.			62·91	66·37	61	30·166						
April 3.												
1 A. M.			58°	66°				South.	1	Clear.	b.w.	
2 "			58	66								
3 "			58	66	57°			S. S.W.				
4 "			58	66								
5 "			56	66							b.	
6 "			56	66				Calm.	0			
7 "			55	66								
8 "			58	66								
9 "	Bay of Islands, N. Z.		68	66	66°	30·200	64° 58°					
10 "			68	66				S. E.	2	Cir.cum	b.c.	
11 "			67	66								
12 "			69	66								
1 P. M.			71	66								
2 "			71	66								
3 "			71	66	69°							
4 "			69	66					3			
5 "			67	66								
6 "			65	66								
7 "			64	66					2			
8 "			64	66						Cir. stra.	c.	
9 "			60	66	59°							
10 "			60	66								
11 "			58	66								
12 "			58	66								
Mean.			62·79	66	62·75	30·200						

U. S. SHIP VINCENNES.

BAY OF ISLANDS, NEW ZEALAND.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 4.												
1 A. M.			58°	65°				Var.	1	Clear.	b. w.	
2 "			57	65								
3 "			56	65	55°			Calm.	0			
4 "			55	65								
5 "			56	65							b.	
6 "			57	66				S. E.	2			
7 "			59	66								
8 "			61	66								
9 "			64	66	56°	30·180	63° 57°			Cum.	b. c.	
10 "			66	66								
11 "			70	66					3			
12 "			68	66				S. S. E.		Cum. st.	c.	
1 P. M.			62	67								
2 "			64	67				S. S. W.			c. p.	
3 "			64	67	62°							
4 "			62	66								
5 "	Bay of Islands, N. Z.		61	66								
6 "			62	66								
7 "			61	66					2			
8 "			61	66								
9 "			61	66	62°			Calm.	0	Cirrus.	c.	
10 "			58	66						Clear.	b. w.	
11 "			58	66								
12 "			56	66						Stratus.	c.	
Mean.			60·71	65·92	58·75	30·180						
April 5.												
1 A. M.			56°	66°				S. S. E.	1	Stratus.	c.	
2 "			56	66								
3 "			53	65	52°							
4 "			53	65					2	Clear.	b.	
5 "			53	65				S. E.				
6 "			54	65								
7 "			57	66								
8 "			57	66				S. S. E.	3			
9 "			57	67	56°	30·120	60° 55°					
10 "			65	67								
11 "			67	67								
12 "			67	67				South.				
1 P. M.			68	67								
2 "			70	67								
3 "			73	67	71°	30·130	68° 54°		2	Cirrus.	b. c.	
4 "			71	67								
5 "	Bay of Islands, N. Z.		70	67								
6 "			68	67					1	Clear.	b.	
7 "			63	67								
8 "			63	67								
9 "			63	66	58°	30·180	59° 54°	Calm.	0		b. w.	
10 "			59	66								
11 "			58	66								
12 "			57	66								
Mean.			61·59	66·33	59·25	30·143						

U. S. SHIP VINCENNES.

FROM BAY OF ISLANDS, N. Z., TO TONGATABOO.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 6.												
1 A. M.			55°	66°				S^{d}.	1	Clear.	b. w.	
2 "			55	66								
3 "			54	66	53°							
4 "			54	66								
5 "			54	66				S. E.	2			
6 "			52	66							b.	
7 "			52	66								
8 "			53	66				S. S. E.	1			
9 "	Bay of Islands, N. Z.		54	66		30·200	60° 50°					
10 "			58	67								
11 "			60	67								Went to sea, the Porpoise and Flying-Fish in company.
12 "			60	67				S. S. W.	2			
1 P. M.												
2 "			69	69								
3 "			69	70	66°	30·140	67° 55°			Cum. st.	b. c.	
4 "			67	70				South.	3			Course N. E. by N.
5 "			66	70								
6 "			66	69								
7 "			66	68								
8 "			65	69								
9 "			64	69	64°	30·130	34° 58°		4	Clear.	b. w.	
10 "			65	70								Water slightly phosphorescent.
11 "			63	69								
12 "			64	67								
Mean.			60·13	67·61	61	30·156						
April 7.												
1 A. M.			65°	69°				South.	4	Clear.	b.	Course N. E. by N.
2 "			63	68								
3 "			63	68	62°	30·130	62° 55°					
4 "			63	68								
5 "			63	67								
6 "			64	67								
7 "			64	68					3	Cum. st.	b. c.	
8 "			65	68								
9 "					67°	30·200	62° 52°					Saw a school of black-fish.
10 "			66	69				S. S. W.				
11 "			67	69								
12 "	33° 51′	175° 55′										
1 P. M.			68	69								
2 "			66	70					2			Water deep blue.
3 "			67	70	66°	30·160	68° 58°		1	Clear.	b.	
4 "			67	70								
5 "			66	70								
6 "			66	70					2			
7 "			66	69						Cirrus.		
8 "			66	69								
9 "			63	69	63°					Clear.		
10 "			64	69								
11 "			64	69								
12 "			64	69								
Mean.			65	68·81	64·5	30·166						

U. S. SHIP VINCENNES.

FROM BAY OF ISLANDS, N. Z., TO TONGATABOO.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 8.												
1 A. M.			65°	67°				S. S. W.	3	Cirrus.	b. c.	Course N. E. by N.
2 "			63	67								
3 "			64	67	64°	30·200						
4 "			64	67								
5 "			63	68								
6 "			63	68						Clear.	b.	
7 "			64	69								
8 "			65	69								
9 "			66	69	65°	30·230	68° 52°	South.				
10 "			66	69								
11 "			66	70								
12 "	32° 48′	177° 11′	67	70					2			
1 P. M.			66	70								
2 "			66	70					3	Cum. st.	b. c.	Water blue.
3 "			67	70	67°	30·240	68° 56°	S. S. E.				
4 "			67	71								
5 "			66	69							c.	
6 "			66	68								
7 "			66	68					1		c. p.	
8 "			66	68							c.	
9 "			65	69	64°	30·280			2		c. p.	
10 "			65	69						Cirrus.	b. c.	
11 "			64	69								
12 "			64	69								
Mean.			65·16	68·75	65	30·237						
April 9.												
1 A. M.			64°	69°				S. E.	2	Cirrus.	b. c.	Course N. E. by N.
2 "			64	69							b. m.	
3 "			63	69	62°	30·280			1			
4 "			63	69								
5 "			64	69								
6 "			64	69						Clear.	b.	
7 "			65	68								
8 "			67	69								
9 "			67	69	67°	30·280						Temperature of water at 400 fms., 59·5°.
10 "			67	69								
11 "			67	70								The Flying-Fish parted company.
12 "	32° 24′	177° 51′	68	70				Calm.	0			
1 P. M.			65	71				E. N. E.	1			Steering to the northward.
2 "			66	71						Cum. st.	b. c.	
3 "			67	71	67°	30·280						
4 "			67	70								
5 "			67	70								Water blue.
6 "			67	70					2	Clear.	b.	
7 "			67	70								
8 "			67	70								
9 "			66	69	66°	30·280				Cum.	c.	
10 "			66	69								
11 "			67	69								
12 "			67	69						Cum. st.	b. c.	
Mean.			65·91	69·5	65·5	30·280						

U. S. SHIP VINCENNES.

FROM BAY OF ISLANDS, N. Z., TO TONGATABOO.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 10.												
1 A. M.			66°	68°				E. N. E.	2	Cum.	b. c.	Steering to the northward.
2 "			66	68								
3 "			66	68	65°	30·240		East.				
4 "			66	68								
5 "			66	68								
6 "			66	69					3	Clear.	b.	
7 "			66	69								The Flying-Fish joined company.
8 "			66	69				E. N. E.				
9 "			66	69	65°	30·180	68° 56°					
10 "			67	69					4			
11 "			68	71						Cum. st.	b. c.	
12 "	31° 11′	178° 03′	70	72								
1 P. M.			70	72								
2 "			70	73				N.E.byE.				Water, light blue.
3 "			70	73	69°	30·080	70° 59°					
4 "			70	73								
5 "			71	73				E. N. E.	3			
6 "			71	72						Cum.		
7 "			72	72					4			
8 "			72	72								
9 "			72	72	71°	30·080		E. by N.		Cum. st.	b. c. w.	
10 "			72	72								
11 "			71	73								
12 "			71	73								
Mean.			68·79	70·75	67·5	30·145						
April 11.												
1 A. M.			72°	72°				E. by N.	4	Nimbus	c. u.	Steering to the northward.
2 "			72	72								
3 "			71	72	70°	30·030						
4 "			71	72								
5 "			72	72							d.	
6 "			72	73				E. N. E.				
7 "			71	73								
8 "			71	73					5			
9 "			72	72	72°	30·040	Rain.	N. E.		Cum. st.	q. p.	
10 "			73	72								
11 "			73	72								
12 "	29° 16′	178° 19′	74	72								
1 P. M.			71	72							q. p.	
2 "			72	73					4			
3 "			72	72	71°	30·000					c. q.	Halo round the sun; for description, see Narrative.
4 "			71	72								
5 "			72	72							b. c. q.	
6 "			71	72						Nimbus	c. u.	
7 "			70	72					5			
8 "			69	72							c. u. d.	
9 "			69	71	68°	30·070	Rain.				q. l. r.	Water phosphorescent.
10 "			69	71								
11 "			70	72				N. by E.	7		q. l.	
12 "			70	72								
Mean.			71·25	72·08	70·25	30·035						

U. S. SHIP VINCENNES.

FROM BAY OF ISLANDS, N. Z., TO TONGATABOO.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 12.												
1 A. M.			72°	72°				N. N. E.	7	Nimbus	q. r.	Steering to the S. E.
2 "			72	72								
3 "			72	72	70°	29·980	Rain.		8			Water phosphorescent.
4 "			71	72								
5 "			69	72					6		r.	
6 "			70	72								
7 "			69	72				East.	5			
8 "			73	72					2	Cum. st.	c. r.	
9 "			73	72	68°	29·980	Rain.	Var.	1		c.	
10 "			73	73								
11 "			73	73								
12 "	30° 19′	178° 56′	73	73				N. W.	2			Steering to the N. E.
1 P. M.			74	73								
2 "			74	73						Clear.	b.	
3 "			73	73	73°	29·950	73° 69°	North.				
4 "			73	73								
5 "			73	73					3			Water, blue.
6 "			72	73						Cirrus.	c.	
7 "			72	72								
8 "			72	72				N. W.				
9 "			71	72	70°	30·040	70° 66°			Over-cast.	o.	
10 "			71	72								
11 "			71	72								
12 "								West.				
Mean.			72	72·39	70·25	29·987						
April 13.												
1 A. M.			71°	72°				S. W.	3	Over-cast.	o.	Course N. E. by N.
2 "			71	72								
3 "			71	72	69°	30·020						
4 "			70	72								
5 "			70	72								Water, deep blue.
6 "			70	72						Cir. stra.	c.	
7 "			70	72								
8 "			70	72								
9 "			70	72	70°	30·050			2			
10 "			70	72					3			A heavy swell from the eastward.
11 "		W.	72	72								
12 "	29° 36	179° 38′	72	72						Clear.	b.	
1 P. M.			73	72								
2 "			73	73								
3 "			72	73	74°	30·040						
4 "			72	73								
5 "			71	72								
6 "			69	73								
7 "			70	73								
8 "			69	73								
9 "			69	73	68°	30·040			2		b. w.	
10 "			69	73								
11 "			70	73								
12 "			69	73								
Mean.			70·54	72·41	70·25	30·037						

U. S. SHIP VINCENNES.

FROM BAY OF ISLANDS, N. Z., TO TONGATABOO.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Masthead.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 14.												
1 A. M.			68°	73°				S.E.	1	Clear.	b.	Course N. E. by N.
2 "			68	73								
3 "			68	73	66°	30·040						
4 "			68	73								
5 "			68	73				Calm.	0			
6 "			69	73								Sunday Island in sight, bearing E. by S.
7 "			70	73								
8 "			71	73								
9 "			73	73	73°	30·050	70° 60°	Var.	1			Water deep blue.
10 "			73	73								
11 "			74	74				North.				Heavy swell from the eastward.
12 "	28° 58′	178° 30′	74	74					2			
1 P. M.			74	74				N.W.	1	Cirrus.	b. c.	
2 "			74	74								Steering to the N.E.
3 "			76	74	76°	30·050	74° 62°					
4 "			76	74								
5 "			74	73								
6 "			73	73								
7 "			71	73				Calm.	0			
8 "			71	73				North.	1	Clear.	b.	
9 "			70	73	69°	30·080	70° 60°					
10 "			70	73								Sunday Island in sight.
11 "			70	72					2			
12 "			71	72								
Mean.			71·42	73·16	71	30·055						
April 15.												
1 A. M.			69°	72°				N.W.	2	Clear.	b.	Steering to the northeastward.
2 "			69	72								
3 "			69	73	68°	30·080	78° 60°					A very brilliant meteor, leaving a luminous track.
4 "			69	73					1			
5 "			69	73				Calm.	0			
6 "			69	73				E.N.E.	1	Cirrus.	c.	Steering north.
7 "			69	73								
8 "			70	73					2			Sunday Island in sight.
9 "			71	73	70°	30·100						
10 "			71	73				East.				
11 "			71	73								Spoke the American whale ship Tobacco Plant.
12 "	28° 41′	177° 52′	71	73								
1 P. M.			72	73				N.E.	3	Cir. stra.	b. c.	
2 "			72	73								
3 "			72	73	72°	30·100			2			
4 "			72	73								
5 "			72	73				North.				Steering E. N. E.
6 "			71	73								
7 "			71	73								
8 "			70	73								
9 "			71	73	68°	30·100				Cirrus.	c.	
10 "			71	73					2			
11 "			71	73					2			
12 "			71	73								
Mean.			70·54	72·91	69·5	30·095						

U. S. SHIP VINCENNES.

FROM BAY OF ISLANDS, N. Z., TO TONGATABOO.

1840.	Lat. South.	Long. West.	THERMOMETERS.			Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
			Air.	Water.	Mast-head.			Direc.	Force.			
April 16.												
1 A. M.			72°	73°				North.	1	Cirrus.	b. c.	Steering to the eastward.
2 "			70	73								
3 "			70	73	69°	30·000						
4 "			70	72								
5 "			71	72								
6 "			71	72								
7 "			72	72				Calm.	0	Cir. stra.		
8 "			72	72								
9 "			73	72	70°	30·000	78° 65°					
10 "			72	72				N. Ed.	1			Steering to the northward.
11 "			73	72					3			
12 "	28° 28′	177° 08′	73	72								
1 P. M.			74	73								Water, blue.
2 "			73	73					1			
3 "			74	73	73°	29·940	75° 66°	Calm.	0			
4 "			74	73								
5 "			72	73								Saw a water-spout.
6 "			72	73				S. E.	2	Cum.	c. u.	
7 "			70	73								
8 "			70	73								
9 "			72	73	71°	29·940	Rain.	East.	3		c. d.	
10 "			71	73						Cum. st.	c.	
11 "			71	73								
12 "			70	72				E. N. E.	4		c. l.	
Mean.			71·75	72·58	70·75	29·970						
April 17.												
1 A. M.			71°	74°				East.	4	Cum. st.	c. l.	Course N. N. E.
2 "			71	75								
3 "			71	75	69°	29·900	68° 65°		3			
4 "			71	75								
5 "			71	74								
6 "			71	74								
7 "			71	74				S. E.		Clear.	b.	
8 "			71	74								
9 "			73	75	73°	29·920	72° 60°					
10 "			73	75				South.				
11 "			73	75								
12 "	27° 25′	176° 23′	73	75					4			Water, indigo blue.
1 P. M.			74	76				S. W.		Cirrus.	b. c.	
2 "			74	76								
3 "			73	75	73°	29·920	74° 64°					
4 "			73	75				South.				Some birds around the ship.
5 "			73	75				S. E.	3			
6 "			73	75								
7 "			72	75								
8 "			72	75								
9 "			71	75	71°	30·000	71° 59°	S. S. E.		Clear.	b.	
10 "			71	75								
11 "			71	75				S. S. W.		Cir. stra.	b. c.	
12 "			71	75								
Mean.			72	74·87	71·5	29·937						

U. S. SHIP VINCENNES.

FROM BAY OF ISLANDS, N. Z., TO TONGATABOO.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 18.												
1 A. M.			71°	74°				South.	2	Clear.	b.	Course N. N. E.
2 "			70	74								
3 "			70	75	69°	30·000	70° 62°					
4 "			70	75								
5 "			71	75								
6 "			71	75								
7 "			72	75				S. W.	3			
8 "			72	75								
9 "			72	75	72°	30·080	70° 61°	West.	2			
10 "			74	75						Cirrus.	b. c.	
11 "			76	76								A swell from the eastward.
12 "	26° 08′	175° 22′	77	76								
1 P. M.			76	77								
2 "			76	77								
3 "			75	77		30·060	76° 64°					
4 "			75	77					1			Water, deep blue.
5 "			75	77								
6 "			74	76								
7 "			73	76				Calm.	0	Clear.	b.	
8 "			73	76				N. E.	1			
9 "			72	76	72°	30·120	72° 60°	Calm.	0			
10 "			72	76								
11 "			74	75								
12 "			74	75								
Mean.			73·12	75·62	71	30·065						
April 19.												
1 A. M.			73°	76°				N. E.	1	Cirrus.	b. c.	Steering to the eastward.
2 "			73	76								
3 "			73	76		30·080	72° 62°	North.	2			
4 "			72	76								Saw several schools of skip-jacks, and a quantity of villuta.
5 "			73	76					3			
6 "			74	76				N. N. W.				
7 "			74	76								
8 "			74	76								
9 "			74	76	73°	30·180	74° 62°			Clear.	b.	
10 "			76	76				North.				
11 "									2	Cum. st.	c.	
12 "	25° 36′	174° 46′										
1 P. M.			80	77								Saw a waterspout.
2 "			79	77				N. N. E.	1		c. p.	
3 "			79	77	77°	30·120	79° 60°					
4 "			75	77								
5 "			75	77								Surface of the ocean covered with anatifa, janthina, spirula, and villula.
6 "			74	77					2			
7 "			73	76							b. c.	
8 "			72	76								
9 "			72	76	71°	30·160						
10 "			72	76				Calm.	0			
11 "			72	76				N. E.	3			Steering N. N. W.
12 "			72	76					4			
Mean.			74·13	76·26	73·66	30·136						

U. S. SHIP VINCENNES.

FROM BAY OF ISLANDS, N. Z., TO TONGATABOO.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 20.												
1 A. M.			74°	77°				N. E.	4	Cir. stra.	b. c.	Steering to the north-westward.
2 "			73	77								
3 "			73	77	72°	30·160			3			
4 "			72	77								
5 "			73	76								
6 "			74	76					2			
7 "			74	76								
8 "			75	76						Clear.	b.	
9 "			77	77	76°	30·200	76° 65°					
10 "			77	77								
11 "			74	78				East.				
12 "	24° 26′	174° 48′	74	78								
1 P. M.			74	78					4			
2 "			75	78								Steering to the north-ward.
3 "			75	77	75°	30·100	76° 63°		5			
4 "			75	77								
5 "			75	77				E. S. E.				
6 "			74	77								Water, blue.
7 "			75	76								
8 "			75	76								
9 "			75	76	73°	30·140	72° 67°	East.				
10 "			75	76					4			
11 "			75	76								
12 "			75	76								
Mean.			74·5	76·75	74	30·150						
April 21.												
1 A. M.			76°	77°				E. N. E.	4	Clear.	b.	Steering to the north-ward.
2 "			76	77								
3 "			76	76	75°	30·100	76° 74°					
4 "			76	76								Passed some cocoanut husks.
5 "			76	76								
6 "			76	77				N. E.	3			
7 "			77	77								
8 "			78	77								Saw a quantity of molluscæ.
9 "			79	78	77°	30·150	78° 72°		2			
10 "			79	78				E. N. E.	1			
11 "			79	78								
12 "	22° 40′	174° 48′	79	78					2			
1 P. M.			78	78						Cir. stra.	b. c.	
2 "			78	78					4			
3 "			79	78	78°	30·100	78° 73°					
4 "			79	78								
5 "			79	79								
6 "			78	79						Cum. st.		
7 "			79	79					5			
8 "			79	79								Water slightly phosphorescent.
9 "			78	79	77°	30·180	78° 74°					
10 "			78	79					3			
11 "			78	79								Steering to the S. E.
12 "			78	79								
Mean.			77·83	77·87	76·75	30·133						

U. S. SHIP VINCENNES.

FROM BAY OF ISLANDS, N. Z., TO TONGATABOO.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 22.												
1 A. M.			78°	79°				N. Ed.	3	Cum. st.	c. u.	Steering to the eastward.
2 "			78	79								
3 "			78	79	77°							
4 "			78	79								
5 "			78	79								
6 "			78	79					4	Nimbus		Islands of Tongataboo and Eooa in sight.
7 "			78	79				East.	5			
8 "			79	79					4			Water, slate colour.
9 "			79	79	76°	30·140	Rain.				r. q. t. l.	
10 "	Island of Eooa bearing East.		78	79								
11 "												
12 "												
1 P. M.			74	79				N. E.	3			
2 "			73	78					7		r. q. t. l.	
3 "			72	78	72°	30·100	Rain.					
4 "			73	78				S.W.	1		c. d.	
5 "			71	78								
6 "			71	78				East.	6		c.	
7 "			73	78								Tongataboo and Eooa in sight.
8 "			73	78					4		c. l.	
9 "			78	79	78°	30·080			7			
10 "			78	79					6		c. t. l.	
11 "			77	78					5			
12 "			77	78							c. l.	
Mean.			75·99	78·59	75·75	30·107						
April 23.												
1 A. M.			77°	78°				N. E.	5	Cir. stra.	c. l.	Beating to the eastward.
2 "			77	78								
3 "			77	78	76°	30·050						
4 "			77	78					4			Tongataboo and Eooa in sight.
5 "			77	78								
6 "			77	78						Cum. st.	c.	Water, deep blue.
7 "			78	78								
8 "			79	78								
9 "			80	78	80°	30·130	77° 75°			Clear.	b.	
10 "			80	78					3			
11 "												
12 "	21° 36′	175° 10′								Nimbus	c. t. l.	
1 P. M.			79	79								
2 "			79	79					4		c. p.	
3 "			79	79	79°	30·000	80° 76°					
4 "			79	79								
5 "			79	79								
6 "			79	79						Cir. stra.	c.	
7 "			79	79								
8 "			79	79					5			
9 "			78	79	77°	30·130	76° 73°		4			Water phosphorescent.
10 "			78	79								
11 "			78	79						Cum. st.	c. u.	
12 "			78	79								
Mean.			78·32	78·54	78	30·078						

U. S. SHIP VINCENNES.

ISLAND OF TONGATABOO.

1840.	Lat. South.	Long. West.	THERMOMETERS.			Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
			Air.	Water.	Mast-head.			Direc.	Force.			
April 24.												
1 A. M.			76°	77°				N. E.	3	Cum. st.	r. l.	Long swell from the S. E.
2 "			76	77								
3 "			77	77	76°						d.	
4 "			77	77								
5 "			78	78					4		c.	Eooa and Tongataboo in sight.
6 "			78	78						Cirrus.		
7 "			78	78					5		c. m.	
8 "			78	79								
9 "			80	79	79°	30·130	76° 74°					
10 "			80	79					4			
11 "			81	79								
12 "			81	79								
1 P. M.			82	79							m.	
2 "			82	79								
3 "	Tongataboo.		82	79	80°	30·020	Misty.		3	Cir. stra.		
4 "			82	79							c. m.	Anchored in 15 fathoms water, off Nukualofa.
5 "			82	78								
6 "			79	78					4			
7 "			79	79					3			
8 "			79	79					1			
9 "			78	79	77°	30·020						
10 "			78	79					2	Cum. st.		
11 "			77	78								
12 "			77	78					3			
Mean.			79·04	78·37	78	30·057						
April 25.												
1 A. M.			78°	79°				N. E.	3	Nimbus	c. p.	
2 "			78	79								
3 "			78	79	78°				4		r.	
4 "			78	79								
5 "			78	79								
6 "			79	79							c.	
7 "			79	79					3			
8 "			78	79								
9 "			78	79	77°	30·020				Cum. st.	c. p.	
10 "			80	79					2			
11 "			80	79				E. N. E.				
12 "			80	79								
1 P. M.			79	79								
2 "			77	79								
3 "	Tongataboo.		78	79	77°	30·000	79° 74°					
4 "			79	79				N. E.				
5 "			79	79								
6 "			78	79						Cir. stra.	c.	
7 "			77	79								
8 "			77	79								
9 "			77	79	77°	30·000						
10 "			77	79				Calm.	0			
11 "			78	79								
12 "			78	79								
Mean.			78·26	79	77·25	30·007						

U. S. SHIP VINCENNES.

ISLAND OF TONGATABOO.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 26.												
1 A. M.			78°	79°				Calm.	0	Cir.stra.	c.	
2 "			78	79								
3 "			77	78	76°	30·000						
4 "			77	78								
5 "			78	79				N. E.	1			
6 "			79	79						Clear.	b.	
7 "			79	79					2			
8 "			79	79								
9 "			80	79	79°	30·000	78° 75°			Cirrus.	b. c.	
10 "			80	79								
11 "	Tongataboo.		81	79					4			
12 "			81	79								
1 P. M.			80	79								Got under way.
2 "			80	79				E. N. E.		Cir.stra.		
3 "			80	79	78°	30·000	78° 75°					
4 "			79	79				N. E.	5			Anchored in 10½ fathoms water, off Pangai-motu.
5 "			79	79						Over-cast.		
6 "			78	79								
7 "			78	79					4			
8 "			78	79				E. N. E.				
9 "			78	79	77°	29·980	76° 74°					
10 "			78	79								
11 "			78	79					2	Clear.	b. w.	
12 "			78	79				Calm.	0			
Mean.			78·79	78·92	77·5	29·995						
April 27.												
1 A. M.			77°	78°				Calm.	0	Clear.	b. w.	
2 "			77	78				N. E.	1			
3 "			77	78	76°	29·980	76° 73°					
4 "			77	78								
5 "			77	78				N. N. E.	1		b.	
6 "			78	79								
7 "			79	79								
8 "			80	79								
9 "			79	79	77°	29·980						Surveying the harbour of Pangai-motu.
10 "			79	79					4			
11 "			80	79								
12 "	Tongataboo.		81	79						Cirrus.	b. c.	
1 P. M.			81	79								
2 "			81	79								
3 "			81	79	79°	29·980	80° 74°					
4 "			81	79				N. E.				
5 "			80	79								
6 "			80	79					3	Clear.	b.	
7 "			79	79								
8 "			79	79						Cir.stra.	b. c.	
9 "			78	79	78°	30·000						
10 "			78	79					2			
11 "			78	79								
12 "			78	79					1			
Mean.			78·96	78·79	77·5	29·985						

U. S. SHIP VINCENNES.

ISLAND OF TONGATABOO.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 28.												
1 A. M.			77°	79°				N.W.	1	Cirrus.	b. c.	
2 "			77	79								
3 "			78	79	79°							
4 "			78	79				N. N. E.	1			
5 "			78	79								
6 "			78	79						Clear.	b.	
7 "			78	79								
8 "			79	79				Calm.	0			
9 "			82	79	81°	30·000	81° 70°					
10 "			82	79								Employed surveying the entrance and harbour.
11 "			82	80								
12 "			82	80								
1 P. M.			82	80								
2 "			82	80				N. N. W.	2			
3 "	Tongataboo.		82	80	82°	30·000						
4 "			81	80								
5 "			81	80								
6 "			80	80				N.W.	1			
7 "			80	80								
8 "			80	80							b. w.	
9 "			80	80	79°		Dew.					
10 "			80	80				Calm.	0			
11 "			80	81								
12 "			80	81						Cir. stra.	c.	
Mean.			79·96	79·58	80·25	30·000						
April 29.												
1 A. M.			77°	79°				Calm.	0	Cir. stra.	c.	
2 "			77	79						Clear.	b. w.	
3 "			77	79	76°		Dew.					
4 "			77	79								
5 "			76	79				S. E.	1		b.	
6 "			77	80								
7 "			77	80								
8 "			78	80				Calm.	0			
9 "			79	80	79°	30·000	80° 70°					
10 "			81	80								
11 "			81	80								Surveying with the boats.
12 "			81	80								
1 P. M.			84	80				N.W.	1			
2 "			83	80								
3 "	Tongataboo.		82	80	81°	30·000	80° 70°		2			
4 "			82	80								
5 "			82	80					1			
6 "			79	80								
7 "			79	80								
8 "			79	80								
9 "			79	80	79°	30·000	Heavy					
10 "			79	80			dew.	Calm.	0		b. w.	
11 "			78	80								
12 "			78	80								
Mean.			79·25	79·71	78·75	30·000						

U. S. SHIP VINCENNES.

ISLAND OF TONGATABOO.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 30.												
1 A. M.			78°	80°				Calm.	0	Cir. stra.	c.	
2 "			78	80								
3 "			77	80	76°							
4 "			79	80								
5 "			80	80				N. E.	1			
6 "			80	80								
7 "			82	80				Calm.	0			
8 "			82	80								
9 "			82	80	81°	30·000						
10 "			82	80								
11 "			82	80								
12 "			82	80								
1 P. M.			82	81								
2 "			82	81								
3 "	Tongataboo.		83	81	82°					Clear.	b.	
4 "			81	81								
5 "			81	81								
6 "			80	81								
7 "			79	80						Cum. st.	c.	
8 "			78	80								
9 "			77	80	76°							
10 "			77	80								
11 "			77	80				N. E.	1		c. m.	
12 "			77	80								
Mean.			79·83	80·25	78·75	30·000						
May 1.												
1 A. M.			77°	80°				Calm.	0	Cum. st.	c. m.	
2 "			77	80								
3 "			77	80	76°	30·000						
4 "			77	80				S. E.	3		c.	
5 "			77	79								
6 "			77	79								
7 "			77	79				E. S. E.				
8 "			78	79								
9 "			79	79	79°	30·000						
10 "			80	80				E. N. E.		Clear.	b.	
11 "			80	80								
12 "			81	80					4			
1 P. M.			81	80								Got under way and anchored off Nukualofa, in 8 fms water.
2 "			81	80								
3 "	Tongataboo.		82	80	82°	30·000	86° 75°				b. m.	
4 "			81	80					2			
5 "			80	80								
6 "			80	80								
7 "			80	80								
8 "									1			
9 "			79	80	78°	30·000	80° 78°			Cirrus.	c. m.	
10 "			79	80				N. E.				
11 "			79	80				Calm.	0			
12 "			79	80								
Mean.			79·04	79·78	78·75	30·000						

U. S. SHIP VINCENNES.

ISLAND OF TONGATABOO.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 2.												
1 A. M.			77°	79°				N. E.	1	Cirrus.	c. m.	
2 "			77	79								
3 "			77	79	76°	30·000						
4 "			77	79								
5 "			77	79				Var.				
6 "			77	79								
7 "			77	79								
8 "			78	79								
9 "			79	79	79°	30·000	80° 77°			Cir. stra.	c.	
10 "			81	79				N. E.	4			
11 "			81	79								
12 "			81	79								
1 P. M.			81	79								
2 "			80	79								Got under way.
3 "	Tongataboo.		80	79	79°				3			
4 "			79	79								
5 "			79	79						Cirrus.	c.	
6 "			79	79								Anchored in 9 fathoms water.
7 "			79	79					1			
8 "			79	79						Clear.	b. w.	The Peacock joined company.
9 "			79	79								
10 "			79	79	78°	30·000	Heavy					
11 "			77	79			dew.					
12 "			77	79								
Mean.			78·62	79	78	30·000						
May 3.												
1 A. M.			77°	79°				Calm.	0	Clear.	b. w.	
2 "			77	79				Var.	1			
3 "			78	79	77°			Calm.	0			
4 "			78	79						Cirrus.	b. c.	
5 "			78	79								
6 "			78	79				S. E.	1			
7 "			79	79								
8 "			79	79							m.	
9 "			79	79	78°	30·000	79° 76°	East.	1			
10 "			79	79								
11 "			80	80								
12 "			81	80				Calm.	0	Clear.	b.	
1 P. M.			83	80								
2 "			83	80								
3 "			82	81	81°	29·950	82° 75°					
4 "			81	81				South.	3			
5 "			80	80								
6 "			79	80								
7 "			77	79				Calm.	0			
8 "			76	79								
9 "			76	79	76°	30·000	78° 77°			Cir. stra.	c.	
10 "			76	79				S. E.	3			
11 "			77	79					4			
12 "			77	79								
Mean.			78·75	79·41	78	29·983						

U. S. SHIP VINCENNES.

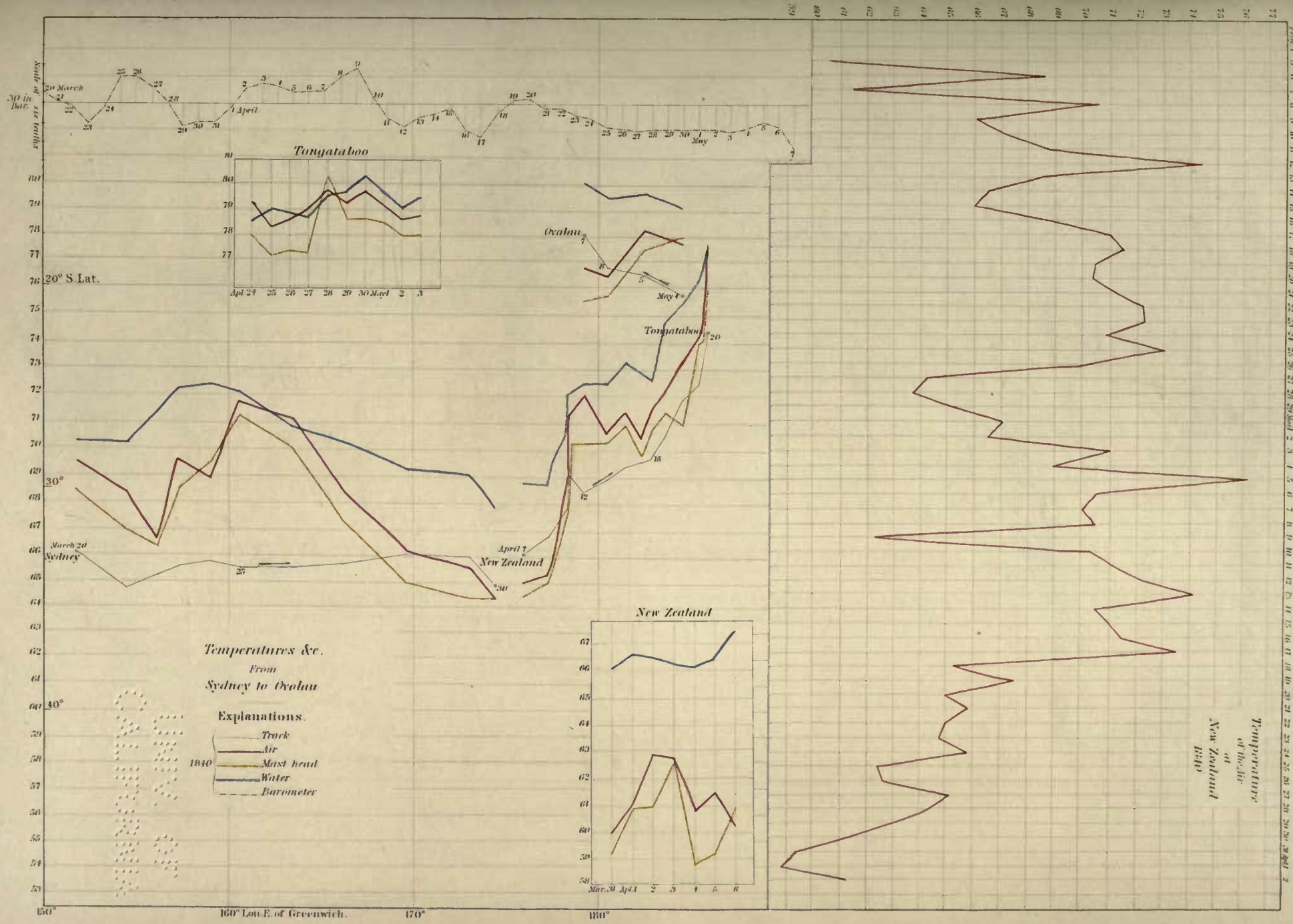
FROM TONGATABOO TO OVOLAU, FEEJEE GROUP.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 4.												
1 A. M.			77°	79°				S. E.	4	Nimbus	r.	
2 "			77	79								
3 "			77	79								
4 "			76	79								
5 "			76	79						Cum. st.	c.	
6 "			77	79								
7 "			77	79					3			
8 "			77	79				E. S. E.				Got under way and went to sea, the squadron in company.
9 "			77	79		30·020	76° 68°					
10 "			77	79								
11 "			79	80					4			
12 "	20° 54′	175° 32′	80	80								Course, W. N. W.
1 P. M.			80	80								
2 "			80	80					3			
3 "			79	80	79°	29·950	80° 71°					
4 "			79	80								Honga Tonga and Honga Hapai in sight.
5 "			79	79								
6 "			79	79								
7 "			78	79						Nimbus		
8 "			78	79					4			
9 "			78	79	77°	30·050	78° 73°				c. u.	
10 "			78	79								
11 "			77	77					3			
12 "			77	77								Water slightly phosphorescent.
Mean.			77·87	79·08	78	30·007						
May 5.												
1 A. M.			78°	79°				E. S. E.	3	Nimbus	c. u.	Course W. N. W.
2 "			78	79								
3 "			78	79	77°	30·000						
4 "			78	79				S. E.			c. p.	
5 "			78	79								
6 "			78	80								
7 "			77	80				South.	4			
8 "			77	80								Saw some flying-fish.
9 "			78	79	78°	30·100	77° 75°					
10 "			78	79								
11 "			79	79								
12 "	19° 51′	177° 24′	79	79				S. S. E.	5			Water, deep blue.
1 P. M.			79	81								
2 "			79	81								
3 "			79	81	78°	30·000	79° 75°					
4 "			78	81								Turtle Island in sight.
5 "			78	80								
6 "			78	80				S. E.				
7 "			78	80					4			
8 "			78	80								
9 "			78	80	77°	30·040						
10 "			78	80					5			
11 "			78	80								Water phosphorescent.
12 "			78	80								
Mean.			78·13	79·8	77·5	30·035						

U. S. SHIP VINCENNES.

FROM TONGATABOO TO OVOLAU, FEEJEE GROUP.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 6.												
1 A. M.			78°	79°				S. E.	5	Cirrus.	b. c.	Hove to.
2 "			78	79								
3 "			78	79	77°	30·000						
4 "			78	79						Cum. st.	c. u.	
5 "			78	79				S. S. E.	4			Totoia Island in sight.
6 "			78	79								
7 "			78	79								
8 "			78	79								
9 "			77	79	76°	30·050			5			
10 "			77	79								
11 "			76	80						Nimbus		
12 "	19° 19′	179° 45′	76	80							d.	
1 P. M.			73	80				S. E.				Several islands of the Feejee Group in sight.
2 "			73	80								
3 "			74	80	73°	29·980	Rain.		6		p.	
4 "			74	80					8			Water, slate colour.
5 "			75	80								
6 "			75	80					7			
7 "			76	80							d.	
8 "			76	79					8			
9 "			78	80	77°	30·000				Stratus.	c.	
10 "			78	80								Water phosphorescent.
11 "			77	79								
12 "			77	79					7		r.	
Mean.			76·5	79·47	75·75	30·007						
May 7.												
1 A. M.			77°	80°				S. E.	7	Nimbus	r.	Steering to the northward among the Feejee Islands.
2 "			74	80								
3 "			76	80	73°							
4 "			76	80					6			
5 "			76	80				E. S. E.				
6 "			76	80							d.	
7 "			76	80								Water, slate colour.
8 "			76	80				East.	5			
9 "			76	80	75°	29·900	Rain.					
10 "			75	80					3	Cum. st.	p.	
11 "		E.	79	80				E. N. E.	1			
12 "	17° 45′	179° 13′	80	80					4			
1 P. M.			79	80								
2 "			78	80				North.			d.	
3 "			78	80	78°	29·880	Rain.		3			
4 "			78	80				N. N. W.				Island of Ovolau in sight.
5 "			77	80							c.	
6 "			77	80								
7 "			77	80				N. W.				
8 "			77	80				North.				
9 "			76	80	76°	29·900	Rain.		4		p.	Water slightly phosphorescent.
10 "			76	80				N. W.				
11 "			76	80								
12 "			77	80					3			
Mean.			76·79	80	75·5	29·893						


Temperatures &c.
From
Sydney to Ovalau
Explanations.
Track
Air
Mast head
Water
Barometer
1840
Tongataboo
Ovalau
Sydney
New Zealand
20° S.Lat.
30°
40°
150°
160° Lon. E. of Greenwich.
170°
180°
Temperature of the Air at New Zealand 1840

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U. S. SHIP VINCENNES.

OVOLAU, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 8.												
1 A. M.			78°	80°				N.W.	1	Clear.	b.	Beating up for the harbour of Ovolau.
2 "			77	80								
3 "			77	80	76°	29·900						
4 "			77	80								
5 "			78	80				Calm.	0	Cum. st.	b. c.	
6 "			78	80				Var.	1			
7 "			78	80								
8 "			79	81								
9 "			80	81	81°	29·960		Nd.	1	Cir. stra.	c.	
10 "			81	81								
11 "			81	81								Anchored in harbour of Ovolau, in 15 fms. water.
12 "			81	81								
1 P. M.			81	81								
2 "			81	81						Cirrus.	b. c.	
3 "	Ovolau.		81	81	81°	29·900			3			
4 "			81	81				N. N.W.				
5 "			81	81								
6 "			80	81								
7 "			80	81					5	Clear.	b. q.	
8 "			80	81				N.W.				
9 "			80	81	80°	29·900			8			
10 "			80	81					5			
11 "			81	81					7			
12 "			81	81					4	Cirrus.	b. c.	
Mean.			79·75	80·63	79·5	29·915						
May 9.												
1 A. M.			81°	81°				North.	6	Cir. stra.	c.	
2 "			81	81								
3 "			80	81	80°	29·890				Nimbus		
4 "			80	81								
5 "			80	81								
6 "			81	81					4	Clear.	b.	
7 "			80	81								
8 "			80	81					2			
9 "			80	81	80°	29·890						
10 "			81	81				Var.	1			
11 "			82	81						Cum. st.	b. c.	
12 "	Ovolau.		82	81								
1 P. M.			82	81								
2 "			81	81								
3 "			81	81	80°	29·890		South.	2		c. p.	
4 "			81	81								
5 "			79	81								
6 "			79	81					3			
7 "			78	81				S.W.				
8 "			78	80					4	Cir. stra.	c.	
9 "			76	80	76°	29·890						
10 "			76	80				West.	6			
11 "			76	80								
12 "			76	80								
Mean.			79·63	80·71	79	29·890						

U. S. SHIP VINCENNES.

OVOLAU, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 10.												
1 A. M.			76°	80°				W. N. W.	3	Cum. st.	b. c.	
2 "			76	80								
3 "			75	80	74°	29·890			2			
4 "			75	80								
5 "			75	80				Var.	1	Clear.	b.	
6 "			76	80								
7 "			78	80								
8 "			79	80				S. E.	4			
9 "			80	81	79°	29·880	80° 73°					
10 "			80	81								
11 "			80	81								
12 "			80	81				S. S. E.				
1 P. M.			80	81								
2 "			80	81					3			
3 "	Ovolau.		80	81	79°	29·900	79° 68°	South.	4			
4 "			80	81						Cirrus.		
5 "			79	81				S. E.				
6 "			79	81								
7 "			79	81								
8 "			78	81						Cir. stra.	b. c.	
9 "			78	80	76°	29·900						
10 "			78	80								
11 "			78	80					2			
12 "			78	80				North.	1	Nimbus	c. u.	
Mean.			78·2	80·5	77	29·893						
May 11.												
1 A. M.			75°	80°				North.	1	Nimbus	d.	
2 "			75	80								
3 "			75	80	73°		Rain.					
4 "			75	80				Calm.	0			
5 "			76	80						Stratus.	c.	
6 "			76	80								
7 "			76	80				S. E.	2	Cir. stra.	b. c.	Erecting observatory on shore.
8 "			76	80								
9 "			78	80	78°	29·960	77° 70°					
10 "			78	80						Cum. st.		
11 "			78	80					4			
12 "	Ovolau.		79	80								
1 P. M.			79	80							p.	
2 "			79	80								
3 "			79	81	78°		Rain.					
4 "			76	80					3			
5 "			76	80								
6 "			75	80								
7 "			76	80					2			
8 "			76	80								
9 "			76	80	75°	30·000	Rain.					
10 "			76	80								
11 "			76	80								
12 "			76	80								
Mean.			76·54	80·04	76	29·980						

U. S. SHIP VINCENNES.

OVOLAU, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 12.												
1 A. M.			75°	79°				S. E.	3	Cum. st.	c.	
2 "			75	79								
3 "			75	79	74°		Rain.				p.	
4 "			75	79							c.	
5 "			76	80								
6 "			76	80						Cum.		
7 "			77	80								
8 "			79	80					2			
9 "			80	80	79°	30·000	79° 74°					
10 "			81	80					1			Preparing Observatory.
11 "			82	80								
12 "			82	81				E. S. E.				
1 P. M.			82	81				S. E.		Clear.	b.	
2 "			82	81								
3 "			81	81	81°							
4 "			81	81								
5 "			81	81					3			
6 "			80	81				S. S. E.				
7 "			80	80								
8 "			80	80						Cum. st.	b. c.	
9 "			79	80	78°	30·000	78° 70°	S. E.	4			
10 "			79	80								
11 "			77	80					2			
12 "			77	80					1			
Mean.			78·83	80·13	78	30·000						
May 13.												
1 A. M.			79°	80°				S. E.	1	Cum. st.	c.	
2 "			79	80				Calm.	0			
3 "			77	80	77°							
4 "			77	80								
5 "			78	80								
6 "			78	80				S. E.	2			
7 "			79	81								
8 "			80	81								
9 "			80	81	79°	30·000				Cum.		
10 "			81	81							b. c.	
11 "			82	81								
12 "			83	81					4			
1 P. M.			83	81								
2 "			81	81								
3 "			81	81	82°	30·060						
4 "			80	81								
5 "			80	81					3			
6 "			80	81						Cum. st.		
7 "			80	81								
8 "			80	81								
9 "			80	81	79°	30·080			4			
10 "			80	81								
11 "			80	81					2			
12 "			80	81								
Mean.			79·92	80·75	79·25	30·047						

Ovolau Harbour.

Ovolau Harbour.

U. S. SHIP VINCENNES.

OVOLAU, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 14.												
1 A. M.			79°	81°				S. E.	2	Cum.	c.	
2 "			79	81								
3 "			79	81	78°	30·080						
4 "			79	81								
5 "			79	81					1			
6 "			80	81								
7 "			80	81						Cum. st.		
8 "			81	81						et nimb.		
9 "			82	81	81°	30·100	81° 75°	E. S. E.	3			
10 "			82	81								
11 "			83	81								
12 "			83	81					4			
1 P. M.			81	81							p.	
2 "			81	81							c.	
3 "			81	81	80°							
4 "			81	81				East.	3			
5 "			81	81								
6 "			81	81								
7 "			80	81								
8 "			80	81								
9 "			80	81	79°	30·100						
10 "			80	81								
11 "			80	81					2			
12 "			80	81								
Mean.			80·5	81	79·5	30·093						
May 15.												
1 A. M.			80°	81°				E. S. E.	2	Cir. stra.	c.	
2 "			80	81								
3 "			79	81	78°	30·100						
4 "			79	81				S. E.				
5 "			79	81								
6 "			79	81								
7 "			80	81						Cum.		
8 "			80	81				East.	3			
9 "			80	81	79°	30·070						
10 "			83	81								
11 "			84	81						Clear.	b.	Putting up instruments at Observatory.
12 "			84	81								
1 P. M.			84	81					1			
2 "			84	81								
3 "			83	81	82°	30·060						
4 "			81	81								
5 "			81	81				S. E.	1			
6 "			81	81								
7 "			81	81				Calm.	0			
8 "			81	81				S. E.	1		b. w.	
9 "			80	81	79°	30·050	81° 78°					
10 "			80	81								
11 "			80	81								
12 "			80	81								
Mean.			80·96	81	79·5	30·070						

U. S. SHIP VINCENNES.

OVOLAU, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 16.												
1 A. M.			79°	81°				Calm.	0	Clear.	b. w.	
2 "			79	81								
3 "			79	81	78°	30·050						
4 "			79	81								
5 "			79	81							b.	
6 "			79	81						Cum.	c.	
7 "			79	81								
8 "			80	81								
9 "			82	81	80°	29·900	86° 78°					
10 "			84	81				S. E.	2			
11 "			84	81								
12 "			84	81								
1 P. M.			81	81								
2 "			81	81								
3 "			82	81	82°					Nimbus		
4 "	Ovolau Harbour.		80	81				N. E.	4			
5 "			80	81								
6 "			80	81								
7 "			76	79							r.	
8 "			75	79								
9 "			75	79	75°		Rain.					
10 "			75	79								
11 "			77	80				Var.	2	Stratus.	c.	
12 "			77	80								
Mean.			79·41	80·58	78·75	29·975						
May 17.												
1 A. M.			76°	80°				Var.	2	Stratus.	c.	
2 "			76	80								
3 "			76	80	75°	30·000		Calm.	0			
4 "			76	80				Var.	1	Clear.	b.	
5 "			77	80								
6 "			77	80								
7 "			78	80				North.	2			
8 "			81	80								
9 "			80	81	80°	30·010						
10 "			80	81								
11 "			81	81								Putting up instruments at the Observatory.
12 "			81	81					3			
1 P. M.			81	81								
2 "			81	81								
3 "			82	81	81°	29·990						
4 "	Ovolau Harbour.		81	81								
5 "			81	81				Var.	2			
6 "			81	81								
7 "			80	81						Cirrus.		
8 "			79	81				Calm.	0			
9 "			79	81								
10 "			78	81		30·000						
11 "			78	81				S. E.	1			
12 "			78	80								
Mean.			79·08	80·67	78·67	30·000						

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

INSTRUMENTS USED ON SHORE.

Standard barometer.

Attached thermometer.

Thermometer, the bulb covered with black wool.
" " " lampblack.
" " " white wool.
" " uncovered.
" in hole, four feet below the surface.

} Hanging in an open frame with north and south exposure.

Temperature of water and thermometer at mast-head, observed on board U. S. Ship Vincennes.

Hygrometer.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
May 18.														
1 A. M.	30·120	82°		75°		77°	76°	81°			S. E.	2	Clear.	b. w.
2 "	·100	79		83		75	76	81						
3 "	·074	77·5		76		73	75	81			Calm.	0		
4 "	·084	78		84		76	76	81						
5 "	·100	75		84·5		75	74	81						
6 "		75		84		74	73	81			North.	1		
7 "	·064	79		81		80	80	81						
8 "	·092	82·5		88·5		84·5	85	81						
9 "	·062	85·5		92		86	86	81	81°					
10 "	·060	88		90		84	88	81						
11 "	·080	89		88		84	84	81						
12 "	·100	89		99		92	88	81						
1 P. M.	·080	90		94		89	88	81						
2 "	·075	91		89·5		89	87	81						
3 "	·060	92		100		99	89	81	84°					
4 "	·060	92·5		96		80	86	81						
5 "	·060	86		82		80	82	81						
6 "	·068	82		78		78	80	81			South.	2	Cum. st.	b. c.
7 "	·086	81		79		79	81	81						
8 "	·092	79		79		78	78	81				3		
9 "	·114	79		74·5		74	76	81	77°	78° 74°			Clear.	b. w.
10 "	·114	80		75		76	.76	81						
11 "	·114	79·5		75		78	75	81			S. E.	2		
12 "	·110	79		74		74	75	81						
Mean.	30·086	82·91		82·95		80·58	80·58	81	80·67					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
May 19.														
1 A. M.	30·170	79°		74°		74°	75°	81°			Var.	1	Cir. stra.	c.
2 "	·128	79		75·5		74	74	81						
3 "	·130	78		72·5		71	76	81	76°	77° 73°				
4 "	·098	76		72·5		71	76	81						
5 "	·100	75		72		72	79·5	81			Calm.	0		
6 "	·086	74		73		72	79	81					Clear.	b.
7 "	·100	86		78		77	79·5	81			Var.	1		
8 "	·114	81·5		83		80	80	81						
9 "	·136	87		84		87	80	81	81°	80° 75°				
10 "	·130	87		91		86	84	81						
11 "	·192	87·5		90		86	84	81			S. E.		Cumulus	b. c.
12 "	·140	85		85·5		89	80	81				3		
1 P. M.	·130	84		88		82	85	81						
2 "	·132	87		83		82	82	81						
3 "	·130	81		82		81	81	81	82°					c. u.
4 "	·130	80		81		79·5	80	81				4		
5 "	·128	79·5		78		76	76	81					Nimbus.	
6 "	·150	80		79		76	78	81						
7 "	·150	79·5		76		76	80	81						c. u. p.
8 "	·180	80		79		76	78	81						
9 "	·180	79·5		76		76	80	81	77°					
10 "	·160	80		76		75	79	81				6		
11 "	·180	79·5		75		75	78	81						
12 "	·180	80		77		74	78	81						
Mean.	30·139	81·04		79·2		77·79	79·25	81	79					
May 20.														
1 A. M.	30·160	72°		77°		74°	74°	81°			S. E.	4	Nimbus.	c. u. p.
2 "	·180	71		76		73	73·5	81						
3 "	·166	78		75		73·5	73	81	77°	Rain.				
4 "	·150	77		74		73	75	81				5		
5 "	·162	80		75		75	76	81						
6 "	·160	79		76		74	77	81						
7 "	·152	81		86·5		77	79·5	81						c. u.
8 "	·224	83		84		80	79·5	81						
9 "	·224	82·5		81		80	80	81	80°	80° 78°		7		c. q. p.
10 "	·228	83·5		83·5		81	81	81			E. S. E.			
11 "	·212	83		82		86	83	81						
12 "	·208	82		96		88	81	81				5		
1 P. M.	·190	81·5		83		86	81	81						
2 "	·208	82		96		88	81	81						r.
3 "	·168	79·5		78		77	80	81	78°	Rain.				
4 "	·158	79·5		75		78	80	80						
5 "	·175	79		76		76	78	80			S. E.			
6 "	·170	79		75		74	78	80						
7 "	·170	79·5		77		78	78	80				4	Stratus.	
8 "	·170	77		76		76	78	80						c. u.
9 "	·170	77		76		75	78	80	77°					
10 "	·160	77		76		75	78	80						
11 "	·160	77		75·5		74	77·5	80						
12 "	·158	77		75		74	77	80						
Mean.	30·178	79·04		79·33		77·7	78·2	80·62	78					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
May 21.														
1 A. M.	30·156	78°		77°		74°	75°	81°			S. E.	5	Cum. st.	c.
2 "	·150	78·5		76		75	74	81						
3 "	·178	79		76		76·5	73	81	77°					
4 "	·176	78		76·5		75	77	81						
5 "	·176	78		77		76	78	81						
6 "	·172	78		78		76	79·5	81						
7 "	·172	80·5		80		79	80	81				4		
8 "	·150	82·5	86°	86		82	80	81					Clear.	b.
9 "	·120	80·5	85	87		82	80	81	79°	80° 75°				
10 "	·160	80	79	89		76	80	81						
11 "	·174	80	79	78		76	80	81						
12 "	·175	81	78	78		79	80	81					Nimbus.	c.
1 P. M.	·180	81	79	79		77	80	81						
2 "	·180	79	79	79		75	80	81			S. S. E.			p.
3 "	·160	78·5	79	78		78	79·5	81	78°	Rain.				
4 "	·160	78	78	78		77	79	81						
5 "	·175	78·5	78	78		77	79	81				3		
6 "	·175	80	76	78		76	77·5	81				2	Stratus.	c.
7 "	·200	79	77	78		76	77·5	81						
8 "	·200	79	77	78		76	77	81						
9 "	·220	78·5	77	77·5		76	77	81	77°		S. E.		Cumulus	
10 "	·200	78·5	76·5	77		76	77	81				4		
11 "	·180	78·5	76	77		74	77	81						
12 "	·180	77·5	75	76·5		74	77	81						
Mean.	30·173	79·33	78·35	78·66		76·58	78·08	81	77·75					
May 22.														
1 A. M.	30·200	79°	78°	77°		76°	77°	81°			S. E.	4	Cum. st.	c.
2 "	·180	79	78	77		75	77	81						
3 "	·160	78	76	77		74	77	81	77°					
4 "	·160	77	78	78		76	78	81						
5 "	·160	78	78	78		76	79	81						
6 "	·180	77·5	78	77		78	78	81				5		
7 "	·150	77	76	75		76	79	81						r.
8 "	·180	78	78	78		77	79	81						c.
9 "	·170	80	79	82		79	79	81	78°	78° 73°				
10 "	·170	82	84	85		80	79	81						
11 "	·192	84	85	84		81	79·5	81						
12 "	·194	80·5	85	84		81	79·5	81					Nimbus.	
1 P. M.	·186	83	85	84		81	79·5	81						
2 "	·180	81	81	80		78	79	81						
3 "	·130	80	78	79		79	80	81	78°			3		
4 "	·134	78	74	73		72	78	81						
5 "	·124	76	74	73		75	78	81						p.
6 "	·120	77	74			74	78	81						
7 "	·140	76	75			76	77	81						
8 "	·180	76	76			76	77	81			E. S. E.			
9 "	·180	78·5	76	77		76	77	81	77°	Rain.			Cum. st.	
10 "	·200	78·5	77	77		74	77·5	81				4		c.
11 "	·200	78	77	77		74·5	77·5	81						
12 "	·200	78·5	77	77		74	77	81						
Mean.	30·165	78·75	78·12	78·52		75·75	78·19	81	77·5					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
May 23.														
1 A. M.	30·200	77°	77°	77°		74°	79·5°	81°			S. E.	3	Clear.	b. w.
2 "	·178	78	72	74		74	78	81						
3 "	·128	76	73	75		74	76	81	75°					
4 "	·132	77	73	76		74	76	81			Var.	1		
5 "	·134	77·5	73	79		75	78	81						
6 "	·134	78	74	79		78	76	81						
7 "	·131	79	75	79		79	76	81						
8 "	·182	80	80	84		80	77	81						
9 "	·184	85	82	80·5		81	78	81	79°	78° 70°				
10 "	·200	85	82	82		79	78	81			Calm.	0		
11 "	·200	88	91	85		81	78	81						
12 "	·200	90	93	81		84	79	81						
1 P. M.	·180	90·5	93	86		86	79	81						
2 "	·172	92	110	100·5		96	79	81			South.	2		
3 "	·160	85	98	85		82	79	81	80°					
4 "	·120	86	96	84		85	79	81						
5 "	·120	88·5	79	76		74	79	81						
6 "	·120	84	78	88		74	79	81				3	Cumulus	b. c.
7 "	·120	76	76	84		70	78	81						
8 "	·140	76	74	73		72	77	81			S. E.	4		
9 "	·175	78	74	73		72	77	81	77°				Clear.	b. w.
10 "	·195	78	74	73		74	77	81				3		
11 "	·200	78	75	76·5		74	77	81						
12 "	·200	77	76	74		76	78	81						
Mean.	30·162	81·62	81·41	80·16		77·83	77·79	81	77·75					
May 24.														
1 A. M.	30·200	76°	70°	71°		70°	78°	81°			S. E.	3	Clear.	b. w.
2 "	·178	75	72	72		70	78	81						
3 "	·176	75	70	71·5		70	77	81	75°	78° 76°				
4 "	·168	75	72	71		70	78	81				4		
5 "	·150	74	73	71·5		71	78	81						
6 "	·140	75	70	75		70	78	81						
7 "	·140	75	74	75		74	78	81						b.
8 "	·134	78	79	78		74	79	81						
9 "	·190	85	90	86		84	78	81	79°	79° 76°				
10 "	·190	85	97	95		89	78	81						
11 "	·164	87	98	95		90	78	81				3		
12 "	·176	88	88	96		90	79	81						
1 P. M.	·174	84	92	96		86	78	81						
2 "	·160	86	89	88		84	78	81			Calm.	0		
3 "	·180	86	87	88		83	78	81		80° 75°				
4 "	·150	84	84	80		80	78	81						
5 "	·150	82	81	79		78	77	81						
6 "	·148	76	71	72		70	78	81						
7 "	·148	76	70	72		70	77	81						
8 "	·160	76	70	73		69	77	81						b. w.
9 "	·170	78	70	73		70	76	81	81°	78° 75°				
10 "	·160	78	70	73		70	76	81			Var.	1		
11 "	·156	78	70	73·5		70	76	81						
12 "	·154	78	71	73		70·5	76	81						
Mean.	30·162	79·5	78·25	79·06		73·85	77·58	81	78·33					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
May 25.														
1 A. M.	30·160	75°	71°	75°		72°	73°							
2 "	·152	76·5	70	72·5		70	72							
3 "	·150	75	70	73		70	73			76° 74°				
4 "	·140	75	71	73		70	72							
5 "	·130	75	72	72		70	75							
6 "	·132	75	74	74		73	77							
7 "	·150	76	80	79		76	78							
8 "	·150	79	81	81		79	78							
9 "	·170	81·5	84	83		80	78			78° 74°				
10 "	·180	84	93	82		88	79	Rubbed out.	Rubbed out.		Rubbed out.	Rubbed out.	Rubbed out.	Rubbed out.
11 "	·204	87	96	93		88	78							
12 "	·200	85·5	94	92·5		86	78							
1 P. M.	·174	84	92	93		86	78							
2 "	·160	87	103	94		88	78							
3 "	·160	84·5	92	85		84	78			81° 74°				
4 "	·160	81·5	83	81		80	78							
5 "	·160	81	83	81		80	79							
6 "	·160	78	72	74		72	78							
7 "	·170	75	74	74		73	77							
8 "	·180	75	72	73·5		72	77							
9 "	·200	76	79	73		72	76							
10 "	·200	76	72	73		72	74							
11 "	·200	76·5	72	73		72	73							
12 "	·200	76	72·5	73		72·5	74							
Mean.	30·168	78·92	80·1	79·06		76·9	76·13							
May 26.														
1 A. M.	30·200	76·5°	72°	72°		72°	73°	81°			Sd.	2	Cumulus	b. c.
2 "	·200	76	72	72		71	78	81						
3 "	·182	73·5	71	72		70	76	81	75°					
4 "	·180	73	70	71		70	77	81						
5 "	·178	73	71	72		70	77	81						
6 "	·176	73	72	73		70	77	81					Clear.	b.
7 "	·178	74	72	73·5		72	74	81			S. S. E.	3		
8 "	·200	80	82	81·5		79	77	81						
9 "	·220	81	82	86		84	77	81	78°	80° 66°				
10 "	·236	84	96	93		81	77	81						
11 "	·212	85	98	95		90	77	81				4		
12 "	·200	86	99	96·5		90	79	81						
1 P. M.	·180	85·5	96	94		88	77	81			South.			
2 "	·236	85	87	87		86	77	81						
3 "	·166	85·5	90	87		85	77	81	78°					
4 "	·160	81	80	79		79	76	81					Cirrus.	
5 "	·150	79	77	77		76	76	81						
6 "	·150	79	76	77		76	76	81			S. E.	5		
7 "	·200	77	76	78		74	76	81					Clear.	
8 "	·200	78	76	78		74	76	81						
9 "	·200	78	76	77		74	76	81	78°			3		b. w.
10 "	·200	78	76	78		77	76	80						
11 "	·200	78	76	77		77	76	80						
12 "	·200	77·5	76·5	78		77	76·5	80				4		
Mean.	30·191	79·02	79·98	80·18		77·58	76·44	80·87	77·25					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Diree.	Force.		
May 27.														
1 A. M.	30·220	77°	77°	77°		76°	75°	81°			S. E.	4	Clear.	b. w.
2 "	·200	78	74	76		72	76	81						
3 "	·204	78	76	76		73	76	81	78°					
4 "	·206	77	76	76		73	75	81						
5 "	·220	77	74	76		74	76	81				3		b.
6 "	·198	77·5	74	77		75	76	81						
7 "	·200	78	77	78		76	76	81					Cumulus	c.
8 "	·232	84	84	83		80	76	81						
9 "	·232	84	92	89		84	76	81	79°	82° 72°				
10 "	·250	88	100	101		95	77	81						
11 "	·260	88	101	101		95	77	81						
12 "	·236	89	104	100		95	77	81					Cum. st.	
1 P. M.	·210	90	107	94		89	77	81						
2 "	·190	85	80	81		80	76	81				5		
3 "	·100	81	79	78		77	76	81	79°	80° 70°			Clear.	b.
4 "	·185	80	79	76		77	76	81						
5 "	·204	80	78	77		76	76	81			South.			
6 "	·200	88	77	77		77	76	81						
7 "	·200	80	77	77		77	76	80						
8 "	·240	88·5	76·5	77		76	76	80					Cumulus	b. c.
9 "	·250	88·5	77	77		77	76	80	76°	78° 70°		4		
10 "	·250	88	77	77		77	76	80						
11 "	·280	79	77	77		77	76	80						
12 "	·270	79	77	77		77	76	80			S. E.			
Mean.	30·216	82·52	82·23	81·04		79·37	76·08	80·75	78					
May 28.														
1 A. M.	30·256	76°	77°	76°		77°	77°	81°			S. E.	4	Cum. st.	b. c.
2 "	·152	76·5	77	79		77	76·5	81						
3 "	·178	78	75	76		75	75·5	81	77°	77° 73°				
4 "	·176	76·5	74	77		76	76	81						
5 "	·178	78	75	76		76	76	81						
6 "	·178	76	76	76		75	75	81			E. S. E.	3		
7 "	·180	76	77	77		76	75·5	81						b.
8 "	·200	81	80	77·5		78	76·5	81						
9 "	·276	85·5	84	81		84	76	81	77°	76° 68°				
10 "	·218	87·5	88	98		95	76·5	81						
11 "	·258	90	101	102·5		94	79	81			East.	5		
12 "	·280	90	100	101·5		96	78	81					Cumulus	c.
1 P. M.	·200	94	103	101·5		95	79	81						
2 "	·180	94	103	98		80·5	79	81						
3 "	·170	90	90	85		81	78	81	78°					
4 "	·140	82	89	80		80	77	81					Stratus.	b. c.
5 "	·140	82	89	80		76	76	81						
6 "	·200	80·5	78	77		76	77	81						
7 "	·200	79	77	77		76	76	81						
8 "	·200	79	77	77		76	79	81						
9 "	·200	79	77	77		76	78	81	77°	78° 68°	S. E.	4	Cum. st.	
10 "	·175	79	77	77		76	78	81						
11 "	·175	79	77	77		76	79	81						
12 "	·178	79	77	77		76	79	81						
Mean.	30·195	81·9	83·25	82·54		80·12	77·79	81	77·25					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
May 29.														
1 A. M.	30·100	79°	77·5°	76°		77·5°	77°	81°			Var.	1	Cum. st.	c.
2 "	·106	78	77	75		77	78	81						
3 "	·112	77·5	78	77		77	77	80	77°	78° 70°				
4 "	·100	78	78	77		77	77	80						
5 "	·108	79	78	77		78	77	80						
6 "	·120	79	78	78		77	78	80			North.			
7 "	·126	79	78	78·5		78	78·5	81						
8 "	·150	81·5	81	82		79	79	81						
9 "	·150	81·5	88	82		83	79	81	80°	79° 72°				
10 "	·150	84	96	91		82	79	81			Calm.	0		
11 "	·200	91	119	112		98	79	81						
12 "	·200	90	105	96·5		90	79	81						
1 P. M.	·110	90	103	110		90	78	81						
2 "	·144	91	99	98		92	79	81						
3 "	·142	90	94	92		90	79	81	82°	82° 75°			Clear.	b.
4 "	·125	85	78	77		76	78	81						
5 "	·140	80	76	75		74	78	81						
6 "	·140	86	76	75		74	78	81						
7 "	·140	86	77	76		76	77	81						
8 "	·112	80	77·5	76		76	77	81						
9 "	·150	80	77	77		76	77	81	78°	80° 75°				b. w.
10 "	·150	80	78	77		76	77	81						
11 "	·180	80	78	77		76	77	81						
12 "	·186	80	78	77		76	77	81			N.W.	1		
Mean.	30·139	82·73	84·37	82·87		80·23	77·9	80·83	79·25					
May 30.														
1 A. M.	30·116	78°	74°	76°		74°	78°	80°			N.W.	1	Clear.	b. w.
2 "	·110	78·5	75	75·5		74	78·5	80					Cumulus	b. c.
3 "	·112	77·5	74	74		72	77	80	76°	78° 70°				
4 "	·112	77	73	74		72	77	80						
5 "	·106	76	74	73		72	76	80						
6 "	·100	75	71	72		71	77	80			Calm.	0	Clear.	b.
7 "	·100	74	73	73·5		73	81·5	81						
8 "	·100	82	81	81·5		80	88	81						
9 "	·124	84·5	90	80		87	78	81	79°	80° 74°				
10 "	·140	85·5	96	93		89	78	81						
11 "	·140	87·5	102	98		92	79	81			South.	2		
12 "	·162	90·5	104	85		93	80	81						
1 P. M.	·150	88	97	90		84	79	81						
2 "	·124	86	95	83		86	79	81						
3 "	·124	86	84	85		81	79	81	81°	82° 76°	S. E.	3	Cumulus	b. c.
4 "	·124	84	81	79		79	79	81						
5 "	·100	83	79	79		78	79	81						
6 "	·100	80	79	79		78	79	81				2		
7 "	·100	80	79	79		78	79	81						
8 "	·105	80	78	78		78	79	81						
9 "	·110	79	77·5	79		78	78	81	79°	79° 75°				
10 "	·150	80·5	78	79		78	78·5	81			S. S. E.			
11 "	·116	79·5	78	79		78	78	81						
12 "	·180	78·5	78	79		78	77	81			S. E.			
Mean.	30·120	81·25	82·1	80·14		79·29	78·81	80·75	78·75					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
May 31.														
1 A. M.	30·162	78°	77°	77°		75°	78°	81°			S. E.	2	Cum. st.	c.
2 "	·160	77	77	76		75	78	81						
3 "	·150	78	76	75·5		75	77	81	77°	79° 75°				
4 "	·130	78	75	75		75	77	81						
5 "	·130	78	76	75		75	77	81						
6 "	·132	77	76	77		76	78	81				3		
7 "	·128	81	77	77		76	77	81						
8 "	·150	85·5	81	82		79	78	81					Clear.	b.
9 "	·156	87·5	89	83		82	78	81	80°	82° 74°				
10 "	·126	87·5	90	88		85	78·5	81						
11 "	·100	86·5	92	88·5		85	79	81						
12 "	·176	86·5	85	91		87	79·5	81						
1 P. M.	·174	89	90	91		86	79·5	81						
2 "	·156	88·5	100	95		90	79·5	81						
3 "	·150	84	90	86		84	80	81	80°	82° 75°			Cum. st.	c.
4 "	·150	81·5	82	84		79	80	81				4		
5 "	·124	81·5	80	79		78	79	81						
6 "	·124	80	80	79		78	79	80				5		
7 "	·150	80	78	77		76	78	80					Nimbus.	c. u.
8 "	·150	80	78	77		76	78	80						
9 "	·150	80	78	77		76	78	80	78°	78° 70°				
10 "	·140	79	79	78		75	77·5	80				4		
11 "	·180	79	79	78		74·5	77	81						r.
12 "	·180	79	79	77·5		74	77	81				5		
Mean.	30·148	81·75	81·83	80·97		78·81	78·21	80·87	78·75					
June 1.														
1 A. M.	30·180	78°	76°	78°		77°	77·5°	80°			S. E.	6	Nimbus.	v.
2 "	·180	78·5	76	78		76	79	80						
3 "	·182	78·5	77	77		76	79	81	77°	Rain.				
4 "	·150	78	77	77		76	79·5	81						
5 "	·150	78	77	77		76	79·5	81						
6 "	·150	78	77	78		76	77	81				4	Cum. st.	c.
7 "	·150	78	76	75		76	78	81						
8 "	·150	78	76	78		76	78	81						
9 "	·150	78	78	78		76	78	81	78°	79° 71°				
10 "	·160	80	80	78		79	79	81						
11 "	·170	85	82	87		83	79	81						
12 "	·200	86	93	86		80	79·5	81					Nimbus.	
1 P. M.	·114	83	81	85		80	80	81				5		c. p.
2 "	·186	82	78	82		80	79·5	81						
3 "	·184	82	78	78		77	79·5	81	78°	Rain.				
4 "	·136	81	79	80		78	79·5	81						
5 "	·130	80	78	79		78	79·5	81						
6 "	·136	80	78	78		78	79	81						
7 "	·130	80	78	78		78	79	81						
8 "	·168	80	79	79		79	78	81						
9 "	·180	80	78	78·5		77·5	78	81	77°			4	Stratus.	c.
10 "	·180	80	78	78		78	78	81						
11 "	·180	80	78	78·5		77	78	81						
12 "	·150	80	78	78		77	78	81						
Mean.	30·161	80·08	78·54	79·12		77·68	78·7	80·91	77·5					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
June 2.														
1 A. M.	30·160	78°	77°	79°		77°	79°	81°			S. E.	2	Overcast.	o.
2 "	·168	79	78	77·5		76	79	81						
3 "	·164	79	77·5	78		77	77·5	81	79°					
4 "	·162	79	77	77		76	79	81				3		
5 "	·150	79	77	79		76	78	81						
6 "	·146	79	77·5	78		78	79	81					Cum. st.	c.
7 "	·148	80	81	80		78·5	79	81						
8 "	·150	80·5	87	80·5		82	79	81						
9 "	·168	86	87	85·5		82	79·5	81	79°	79° 75°		5		
10 "	·192	89	102	92		88	79·5	81					Clear.	b.
11 "	·180	87·5	98	95		88	79	81						
12 "	·174	89	89·5	86·5		84	80	81						
1 P. M.	·170	88·5	96·5	87		84	79·5	81						
2 "	·164	88	96	88		84	79	81					Cumulus	b. c.
3 "	·184	86·5	88	84		82	79	81	80°	80° 76°	E. S. E.			
4 "	·120	83	82	81		79	79	81						
5 "	·116	82·5	81	80		79·5	79·5	81				4		
6 "	·116	81·5	79·5	78		78	79·5	81						
7 "	·120	81	79	78		78	79	81					Clear.	b.
8 "	·120	81	79	78		78	78	81						
9 "	·180	80	77	78·5		77	78	81	79°		S. E.	3	Cum. st.	c.
10 "	·180	80	77	78		77	79	81						
11 "	·182	79	77·5	77·5		77	78	81				2		
12 "	·186	79	77·5	77		78	78	81						
Mean.	30·158	82·29	83·25	81·37		79·75	78·83	81	79·25					
June 3.														
1 A. M.	30·150	78°	77°	77°		76°	79°	80°			East.	2	Nimbus.	c. u.
2 "	·152	78·5	76	76		75	79	80						
3 "	·148	79	79	77		75	79	80	78°					
4 "	·150	78·5	78	76		76	78	80						
5 "	·158	78	79	75		76	79	80						r.
6 "	·166	78	76	74·5		76	79·5	80						
7 "	·128	78·5	78	76		78	79	80					Cumulus	c.
8 "	·130	79·5	79	80		78	79·5	81			S. E.			
9 "	·168	79·5	89	84		86	79·5	81	82°	81° 72°				
10 "	·150	84	94	90		90	79·5	81						
11 "	·168	88	96	97		90	80	81						
12 "	·156	84·5	88	87·5		79	80	81			Calm.	0		
1 P. M.	·110	85	88	87		80	80	81			North.	1	Clear.	b.
2 "	·100	87	94	89		88	80	81						
3 "	·100	87	90	86		87	80	81	83°					
4 "	·100	84	89	86		86	80	81						
5 "	·100	84	82	80		80	80	81			S. E.	3		
6 "	·100	79·5	75	76		76	79·5	81					Cumulus	c.
7 "	·112	80	76	77		76	79	81						
8 "	·150	80	76	77		77	79·5	80						
9 "	·164	80	76	77		77	79	80	78°		East.	2	Overcast.	o.
10 "	·160	80	76	77		77	79	80						
11 "	·160	80	76	77		77	79	80						
12 "	·120	80	77	77		77	79	80						
Mean.	30·137	81·25	81·91	80·66		79·7	79·33	80·5	80·25					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
June 4.														
1 A. M.	30·150	78°	79°	77°	78°	77°	79°	80°			S. E.	4	Cum. sl.	c.
2 "	·152	78·5	76	76	78	76	79	80						
3 "	·148	79	77	77	78	77	79	80	77°					
4 "	·150	78	78	76	77	76	78	80						
5 "	·158	78·5	76	76	76	76	79	80			East.	2		
6 "	·166	79	76	75	75	76	79·5	80						
7 "	·128	79·5	78	75	76	78	79·5	80						
8 "	·130	79·5	79	76	78	78	80	81					Clear.	b.
9 "	·168	79·5	89	80	79	76	80	81	80°	79° 76°				
10 "	·150	84	94	84	94	90	80	81			N. E.	3		
11 "	·168	88	106	90	97	92	80	81						
12 "	·156	84·5	82	97	82	79	80	81						
1 P. M.	·110	85	94	87·5	87	80	80	81						
2 "	·100	87	88	87	87	88	80	81						
3 "	·100	87	90	87	85	87	80	81	79°				Nimbus.	c. u.
4 "	·100	84	89	86	82	86	80	81				2		
5 "	·100	84	82	86	82	80	80	81						
6 "	·100	79·5	75	80	77	76	79·5	80						
7 "	·100	80	76	76	77·5	76	79	81						
8 "	·112	80	76	77	77	77	79	81						
9 "	·120	80	76	77	77·5	77	79	81	76°	Rain.	S. E.	1		r. t. l.
10 "	·164	80	76	77	77	77	79	81						
11 "	·160	80	76	77	77	77	79	81						
12 "	·160	80	77	77	77	77	79	81						c.
Mean.	30·135	81·33	81·87	80·54	80·41	79·54	79·41	80·66	78					
June 5.														
1 A. M.	30·170	80°	77°	79°	77°	79°	79°	81°			S. E.	1	Nimbus.	c. t. l.
2 "	·172	79	77	79	76	78	79·5	81						r. t. l.
3 "	·100	80·5	77	78·5	76	77	79·5	81	77°	Rain.				
4 "	·102	80	77·5	78	76·5	78	79	81				2		
5 "	·106	80	76	78	79	77	79·5	81			East.			r.
6 "	·112	79	76	79	77	77	79	81				3		
7 "	·114	79	77	79	76	70	80·5	81						
8 "	·120	79	77	78	76	78	80	81						
9 "	·180	80	78	79	78	78	80·5	81	77°	Rain.				
10 "	·180	80	78	79	78	78	80·5	81			S. E.			c.
11 "	·160	81	78	78·5	78	78	80	81				2		
12 "	·162	81	78	79	78	78	80	81						
1 P. M.	·150	81	78	77	76	76	80	81						r.
2 "	·120	80	73	77	74	70	79·5	80						
3 "	·130	80	72	74	72	70	79	80	77°	Rain.				
4 "	·150	78	72	73	71·5	78	79	80						
5 "	·150	74	72	71·5	71	71	79	79						
6 "	·170	74	71	71	71	69	78·5	78						
7 "	·170	74	71	71	71	69	79	78						d.
8 "	·174	74	71	71	71	68	79	78						
9 "	·170	75	72	73	72	70	79	78	73°	Rain.				
10 "	·160	78	70	72	70	70	79	80				3	Cir. stra.	b. c.
11 "	·158	75	70	72	70	70	79	80						
12 "	·156	75	70	71	70	70	75	80					Clear.	b. w.
Mean.	30·147	78·04	74·16	75·66	74·37	73·62	79·25	80·16	76·25					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast head.		Direc.	Force.		
June 6.														
1 A. M.	30·170	80°	77°	79°	77°	79°	79°	80°			S. E.	2	Clear.	b. w.
2 "	·172	79	77	79	76	78	79·5	80						
3 "	·100	80·5	77	78·5	76	78	79·5	80	74°					
4 "	·102	80	77·5	78	76·5	78	79	80						
5 "	·106	80	76	78	76	77	79	80						b.
6 "	·112	79	76	79	76	77	79·5	80						
7 "	·114	79	77	79	76	70	80·5	80				4		
8 "	·120	79	78	78	76	78	80	80						
9 "	·180	80	78	77	78	78	80·5	81	76°					
10 "	·160	80	79	77·5	78	78	80·5	80						
11 "	·140	81	78	77	78	79	80	80						
12 "	·162	80	78	77	78	78	81	81						
1 P. M.	·150	81	73	77	76	76	80	81					Cumulus	c.
2 "	·120	80	72	77	74	70	79	81				5		
3 "	·130	80	80	74	72	70	79	81	80°					
4 "	·140	82	79·5	76	79	79	78·5	81						
5 "	·140	82	79	78	78	78	78·5	81					Cum. st.	
6 "	·140	81	78	78	78	78	78	81			E. S. E.			
7 "	·180	81	77	78·5	78	77	78	81						
8 "	·176	82	78	78	77·5	77	78	81						
9 "	·166	82	78	78	76	78	78	80	78°	79° 75°				
10 "	·168	82	78	77·5	76·5	78	78	80				4		
11 "	·170	82	78	77	77	78·5	78	79				3		c. p.
12 "	·170	81	77	77·5	76·5	77·5	78	79						c.
Mean.	30·141	80·54	76·83	77·62	76·66	76·83	79·12	80·33	77					
June 7.														
1 A. M.	30·165	79·5°	77·5°	78°	77·5°	78°	79°	81°			E. S. E.	3	Cum. st.	c.
2 "	·150	79	78	78	77	78·	79	81						
3 "	·150	79·5	78	79	77·5	78	79	81	77°			4		
4 "	·146	79·5	79	79	78	77	79	81						
5 "	·130	79	78	76	77	77	78	81						
6 "	·150	79	77	77	76	76	78	81						
7 "	·180	78·5	80	92	78	78	78	81						
8 "	·140	82	86·5	84	86	80	79	81				2	Clear.	b.
9 "	·180	85	100	92	98	87	79	80	80°	80° 76°				
10 "	·180	83·5	104	94	100	85	79·5	80						
11 "	·180	86	98	89	90	82	79·5	80			East.	3		
12 "	·180	86	86	89	88	94	80	80						
1 P. M.	·100	86·5	102	98	100	90	80·5	80						
2 "	·100	84	100	90	90	82	80	80						
3 "	·100	83	84	81	83·5	79	79·5	81	80°			4		
4 "	·070	82	80	80	79	79	79	81						
5 "	·070	81	80	80	79·5	78	79·5	81						
6 "	·070	80	79	79	79	77·5	79	81						
7 "	·090	80	79	79	78	76	78	81					Cumulus	b. c.
8 "	·100	80	78	76·5	77	77	78	81						
9 "	·100	80	77	76	76·5	78	78	80	78°		S. E.	2		
10 "	·110	79·5	77	76	76·5	77	78	80						
11 "	·110	80	77	76	76	75	78	80						
12 "	·110	80	77	76	76	77	78	80					Clear.	b. w.
Mean.	30·128	81·29	83·8	82·04	82·25	79·41	78·41	80·58	78·75					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast Head.		Direc.	Force.		
June 8.														
1 A. M.	30·110	80°	76°	76°	78·5°	75°	79·5°	81°			S. E.	4	Clear.	b. w.
2 "	·100	80	77·5	76	77	76·5	78	81						
3 "	·100	79	78	76	77·5	76·5	78·5	81	78°					
4 "	·104	79	78	77	77·5	77	78	81						
5 "	·104	79·5	78	79	78	77	78·5	81						b.
6 "	·096	79	77	79	77	77	79	81				2		
7 "	·080	78	77	79	77	76	79	81						
8 "	·088	81	80	80	80	79	79	81						
9 "	·090	86	84	84	85	82	79	80	79°	80° 72°				
10 "	·120	86	90	92	90	88	79	81				1		
11 "	·130	86	88	89	87	84	79	81						
12 "	·130	87	92	87	90	85	79·5	81						
1 P. M.	·092	87·5	99	92	95·5	88	80	81						
2 "	·140	87	99	94	86	89	80	81						
3 "	·140	88	92	94	92	90	80	81	82°					
4 "	·140	87	88	89	86	90	80	81						
5 "	·136	85	84	92	82	76	80	81						
6 "	·100	82	78	77	76	80	79	81						
7 "	·100	77	74	74	73	74	79	81				2		
8 "	·100	77	74	74	73	72	79	81					Cumulus	b. c.
9 "	·106	77	77	74	76	77	79	81	78°	79° 70°				
10 "	·112	77	72	73	72	77	79	81						
11 "	·112	76·5	72	73	72	77	79	81						
12 "	·114	76	72	73	72	77	79	81				4		
Mean.	30·110	81·46	81·5	81·37	80·4	79·75	79·12	80·96	79·25					
June 9.														
1 A. M.	30·140	76°	73°	73°	73°	72°	77°	80°			S. E.	4	Cum. st.	c.
2 "	·142	76·5	75·5	77	73	72·5	77	80						
3 "	·136	76·5	74	73	73	72·5	77·5	80	77°	78° 70°				
4 "	·130	76·5	74	73	74	73	77·5	80						
5 "	·130	77	74·5	73	74·5	73	78	80						
6 "	·170	77·5	74	77·5	75	74	78	80				2	Clear.	b.
7 "	·088	78	78	77	77	77	78·5	80						
8 "	·068	78	78	76	77·5	79·5	79	80						
9 "	·086	87·5	89	87	88	85	74	80	80°	78° 70°				
10 "	·100	85·5	87	91	96	89	79	80				4		
11 "	·100	87	92	88	90	88	79	80					Cumulus	b. c.
12 "	·100	86	90	77	88	85	79	80						
1 P. M.	·096	86·5	86	85	91	87	79	80						
2 "	·080	87	100	97	96	92	80	80						
3 "	·070	86	90	84	88	84	80	80	79°	80° 70°	E. S. E.	5		
4 "	·070	81	83	80	81	79	79	80						
5 "	·050	81	80·5	79·5	81	78·5	79	80						
6 "	·076	79	80	79	80	78	77·5	80					Cum. st.	
7 "	·060	79	77·5	78	78	75	79·5	80						
8 "	·080	79	77	77	76	76	79	80				4		
9 "	·084	78·5	77·5	77	76	76	79	80	79°					
10 "	·090	79	77	77	76	76	79	80					Cumulus	
11 "	·100	78·5	77	77	76	76·5	79	80						
12 "	·100	78	77	77	76	76	79	80						
Mean.	30·098	80·45	80·87	79·58	80·54	78·91	78·33	80	78·75					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
June 10.														
1 A. M.	30·108	78·5°	77°	77°	76°	76°	79°	80°			S. E^{d}.	4	Cum. st.	c.
2 "	·100	78·5	77	77	76	76	78·5	80					Nimbus.	d.
3 "	·090	78	77	77	76	76	78	80	77°	Rain.				
4 "	·088	77	77	78	76	76	78	80						
5 "	·090	76·5	77	76	76·5	76	78	80				3		
6 "	·088	77	76	75	76	76	78·5	80						c.
7 "	·090	76·5	76	75	75	76	79	80						
8 "	·082	78	79	76·5	79	78	79	80						
9 "	·100	79	77·5	76	77	75	79	80	77°	Rain.	South.			v.
10 "	·090	78	81	77	79·5	78	79	80						
11 "	·080	78	77	75	76	74	79	80						
12 "	·080	78	77	74	76	74	79	80						
1 P. M.	·068	78	77	74	76	75	79	80						
2 "	·060	78	77	74	76·5	75	79	80						
3 "	·050	77·5	77·5	76	77	76	79	80	78°	Rain.				
4 "	·040	77·5	78	77	77	76	79	80						
5 "	·040	77	77	77	76	76	79	80			S. E.	5		c.
6 "	·040	75	75	75	75	74	78·5	80						
7 "	·050	75	74	74	74	74	78·5	80						
8 "	·050	75	74	74	74	73·5	78	80					Cum. st.	b. c.
9 "	·050	75	74	74	74	74	78	80	74°			4		
10 "	·050	75	74·5	73·5	74·5	75	78	80						
11 "	·050	75	75	73	75	74	78	79						
12 "	·050	75	75	74	75	74·5	78	79						
Mean.	30·070	76·45	75·66	75·45	75·95	75·37	78·58	79·92	76·5					
June 11.														
1 A. M.	30·054	75°	75°	74°	75°	74°	78°	79°			S. E.	4	Cum. st.	c.
2 "	·054	75·5	75	74	75	74·5	77·5	79						
3 "	·056	76	76	75	75·5	74·5	77·5	77	75°					
4 "	·056	76·5	76	75	76	75	78	77						
5 "	·056	77	77	76	76	75·5	78	79						
6 "	·060	77·5	80	76	76	75·5	77·5	80						
7 "	·060	78	86	78	79	76	77	80						
8 "	·070	78·5	89	85	86	80	78	80						
9 "	·080	80	92	88	88	81	78·5	80	77°	78° 70°				
10 "	·100	84	98	88	82	83	78	80						
11 "	·100	84·5	102	90	96	83	78	80			E. S. E.	3	Clear.	b.
12 "	·140	83	102	94	100	91	78	80						
1 P. M.	·130	83	93	94	100	91	78	80						
2 "	·136	83·5	84	86	92	82	77·5	80					Cir. stra.	c.
3 "	·100	82	78	82	83	80	77·5	80	78°	80° 72°		2		
4 "	·090	79	77	80	78	76·5	77	80						
5 "	·088	78·5	76	78	76	76	77	80						
6 "	·084	78	76	78	76	74	76·5	80						
7 "	·080	77·5	75	77	74	75	76·5	80					Nimbus.	c. u.
8 "	·078	77	75	76·5	74	75	76	80			S. E.	4		
9 "	·076	76	75	76	75	75	76	80	76°					
10 "	·100	76·5	75	76	75	75	76	80						d.
11 "	·100	76	75	76	75	75·5	76	80						
12 "	·106	76	75	76	75	75·5	76	80						
Mean.	30·085	78·69	81·75	80·35	80·73	78·06	77·25	79·62	76·5					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
June 12.														
1 A. M.	30·084	75°	76°	75°	75°	75°	77°	80°			South.	4	Cum. st.	c.
2 "	·084	75	76	75	74	75	77	80						
3 "	·086	75·5	75	75·5	74·5	74	77·5	80	75°					
4 "	·086	76	75	75·5	75	74	77·5	80						
5 "	·096	76	75·5	75·5	75	74	77·5	80			S. E.		Clear.	b.
6 "	·100	76·5	76·5	76	75	74·5	76·5	80						
7 "	·100	76·5	76	76	78	76	76·5	80						
8 "	·110	77	83	81	82	78	76	80						
9 "	·120	78	85	82	84	80	77	80	76°	78° 65°				
10 "	·130	80	89	86	88	82	77	80				3	Cum. st.	b. c.
11 "	·140	82	100	93	97	90	78	80						
12 "	·140	84	106	94	99·5	89·5	78	80						
1 P. M.	·124	84	105	92	102	89	78	80						
2 "	·130	83	100	92	99	88	77·5	80						
3 "	·130	83	96	88	98	84	77·5	80	78°					
4 "	·126	82	90	85	94	82	77·5	80				5		
5 "	·122	81	80	80	94	76	77·5	80						
6 "	·112	79	78	75·5	88	76	77·5	80						
7 "	·120	78	76	75	75	75	77·5	80						
8 "	·130	78	75	75	75	75	77·5	80						
9 "	·140	77	75	74	74	74	77·5	80	76°	Light		4		p.
10 "	·140	76·5	74·5	74	74	74	77·5	80		Rain.				c.
11 "	·144	76·5	74	73·5	73	74	77.5	80					Clear.	b. w.
12 "	·148	76	73	73·5	73	73	77	80				2		
Mean.	30·118	78·54	82·9	80·08	83·16	78·42	77·31	80	76·25					
June 13.														
1 A. M.	30·100	76°	72·5°	72·5°	72·5°	72°	77°	80°			S. E.	3	Clear.	b. w.
2 "	·110	76	72·5	72·5	72·5	72	77	80						
3 "	·109	75·5	72	72	72·5	72	77	80	76°					
4 "	·109	75·5	72	72	72·5	72	77	80						b.
5 "	·108	74	72	72	72·5	73	77	79						
6 "	·106	74	73	73	73	73	76	79					Cumulus	b. c.
7 "	·100	75	74	74·5	73	74	76·5	79						
8 "	·140	78	86	85	85	82·5	76·5	79				4		
9 "	·140	82	96	89	92	86	76·5	79	76°	79° 67°				
10 "	·150	85	99	93	94	88	76·5	79			E. S. E.		Clear.	b.
11 "	·150	86	109	102	104	94	77	79						
12 "	·150	86·5	110	103	105	95	77	79				3		
1 P. M.	·146	86·5	98	90	92	88	77	79						
2 "	·140	86	96	86	92	86	78	79			E. S. E.			
3 "	·130	84	94	85	92	85	78	79	78°			4		
4 "	·100	82	88	81	82	86	78	79						
5 "	·100	80	79	78	78	77	78	79						
6 "	·100	79	77	77	77	76	78	79						
7 "	·100	77·5	76	76	75	75	78	79			S. E.			
8 "	·132	77	74	75	74	74	78	79				2	Cumulus	b. c.
9 "	·130	77·5	74	75	74	74	78	79	75°					
10 "	·132	77	74	75	74	74	78	79				1		
11 "	·140	77·5	74·5	75	74	74	78	79						
12 "	·150	77	74·5	75	74	74	78	79						
Mean.	30·115	79·33	82·79	80·33	80·08	79	77·33	79·16	76·25					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
June 14.														
1 A. M.	30·150	77°	75°	75°	75°	74°	77°	79°			S. E.	1	Cumulus	c.
2 "	·144	76·5	75·5	75·5	75	74	77	79						
3 "	·144	76·5	75·5	75·5	75·5	74·5	77·5	79	75°			3		
4 "	·140	76	75·5	75·5	75·5	74·5	77·5	79						
5 "	·136	75	76	76	75·5	75	77	79					Cum. st.	
6 "	·130	76	75	75	75	75	76	79						
7 "	·120	76	74	75	74	74	75·5	79				4		
8 "	·130	80	80	80	80	78	76	79						
9 "	·144	83	88	86	86	82	76	79	78°	77° 69°				
10 "	·166	84	81	79	77	78	76·5	79			East.	2	Cumulus	
11 "	·166	80	82	81	80	79	77	79						
12 "	·150	82	90	85	86	80	76	79			S. E.		Clear.	b.
1 P. M.	·150	83	105	92	100	90	77	79						
2 "	·150	85	112	101	106	95	77	79						
3 "	·150	85	105	100	100	93	78	79	78°					
4 "	·150	83	100	90	94	90	77·5	79				1		
5 "	·140	81	80	88	80	78	77	79						
6 "	·140	80	77	78	76·5	76	76	79						
7 "	·150	78	77	77	76·5	76	76	79						
8 "	·150	78	77	77·5	76·5	76·5	76	79					Cirrus.	b. c.
9 "	·170	78·5	76	77	76	76	76	79	77°			3		
10 "	·170	78·5	76	76	75	76	76	79						
11 "	·170	78	75	75·5	75	74	75	79						
12 "	·160	78	75·5	75	75	74	75	79						
Mean.	30·148	79·08	85·12	81·06	83·12	79·25	76·45	79	77					
June 15.														
1 A. M.	30·160	75°	76°	75°	76°	75°	75°	79°			S. E.	3	Cumulus	b. c.
2 "	·160	77	77	76	76·5	75·5	75	79						
3 "	·160	77·5	77	76	77	76	75·5	79	79°					
4 "	·162	77	76	76	77	76	75	79						
5 "	·160	77	76	75·5	77	76	75	79						
6 "	·142	76	75	76	74	75·5	75	79						
7 "	·134	76·5	76	81	75	76	74·5	79			E. S. E.	2	Clear.	b.
8 "	·150	81	82	90	80	79·5	76	79						
9 "	·174	83	102	90	100	86	76	79	78°	78° 68°				
10 "	·174	83	102	92	100	86	76	79						
11 "	·140	76	96	94	93	86	76	79					Cirrus.	
12 "	·160	88	96	98	90	88	77	79						
1 P. M.	·190	89	100	96	100	90	77	79					Clear.	
2 "	·140	89·5	104	89·5	98	90	77·5	79						
3 "	·140	89·5	104	85	95	89·5	77·5	80	80°	78° 70°	S. E.			
4 "	·140	89	100	80	95	89	77	80						
5 "	·130	86	92	76	90	80	77	80						
6 "	·100	82	75·5	76	75	74	77	80					Cumulus	b. c.
7 "	·120	80	75·5	79	75	75	77	80						
8 "	·140	79	76	77	75	75·5	77	79						
9 "	·150	77·5	71	70	70	70	77	79	77°	78° 70°		3		
10 "	·060	77·5	75	75	74	76	76·5	79						
11 "	·160	77	75	77	75	75	77	79			East.	1	Clear.	b. w.
12 "	·160	77	75	77	75·5	75·5	77	79						
Mean.	30·145	80·83	84·75	81·54	83·04	79·79	76·25	79·2	78·5					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast head.		Direc.	Force.		
June 16.														
1 A. M.	30·156	84·5°	76°	70°	70°	70°	76·5°	79°			East.	1	Clear.	b.
2 "	·150	84	75	73	70	70	77	79					Cumulus	b. c.
3 "	·140	82	75·5	74	75	74	77	79	75°	78° 68°				
4 "	·140	82	73	71	71	69	76·5	79						
5 "	·124	76	74	72	72	76	75	79				2		
6 "	·124	76	74	72	72	71	75	79					Clear.	b.
7 "	·112	74	74	73	71	71	75·5	79				4		
8 "	·150	82	74	90	100	86	76	79			N. E.			
9 "	·150	84	99	98	100	92	77·5	79	79°	78° 70°				
10 "	·150	87	101	94	98	86	77·5	79				3		
11 "	·150	88	90	96	98	89	78	79						
12 "	·150	88	109	96	88	83	77	79						
1 P. M.	·100	88	108	95	99	88	77	79			North.	2		
2 "	·100	90	110	96·5	100	90	77	79						
3 "	·100	91	104	99	100	98	77	79	80°					
4 "	·100	90	79·5	96	98	92	77	79						
5 "	·100	87	75	80	79	79	77	79						
6 "	·098	78	70	74	75	74	77	79			Calm.	0		
7 "	·080	76	69·5	74	70	70	77·5	79			Var.	1		
8 "	·100	77	70	71	69·5	70	77	79						b. w.
9 "	·100	77	74	72	70	70	77	79	74°					
10 "	·100	77	74	74	74	70	77	79			S. E.	1		
11 "	·100	77	74	74·5	74	70	77	79						
12 "	·106	77	74	74	74	70	77	79						
Mean.	30·120	82·16	82·33	77·87	83·62	79·02	76·79	79	77					
June 17.														
1 A. M.	30·098	76°	70°	71°	70°	70°	76°	79°			Calm.	0	Clear.	b. w.
2 "	·090	76	71	72	70	70	76	79						
3 "	·088	76·5	71·5	72	71	70	76·5	79	77°					
4 "	·096	77	71·5	72	71	70	76	79			W^{d}.	1		
5 "	·084	76	71	72	70·5	70	76	79						b.
6 "	·078	74	71	71·5	70	70	76·5	79						
7 "	·062	72·5	72	72·5	71	71·5	76	79						
8 "	·100	82	86	85	84	83	77	79						
9 "	·116	86	109	99	104	94	77	79	79°	80° 76°				
10 "	·120	87	109	99	106	96	77	79					Cumulus	b. c.
11 "	·106	79·5	87	84	85	82	77	79			Calm.	0		
12 "	·104	87	90	90	86	88	77	79					Clear.	b.
1 P. M.	·090	88	124	112	118	105	77	80						
2 "	·030	87	106	86	98	95	78	80						
3 "	·060	87	89	86	86	85	78	80	80°				Cirrus.	b. c.
4 "	·060	86	87	84	85	83	78	80						
5 "	·060	80	80	76	78	74	78	80					Clear.	b.
6 "	·050	80	74	73	72	72	77·5	79						
7 "	·075	79	73	73	72	72	77	79						
8 "	·084	78	72	73	72	72	77	79						
9 "	·100	77	72	73	72	72	77	79	75°	78° 72°				b. w.
10 "	·100	77	72	73	72	72	77	79			W^{d}.	1		
11 "	·090	77	72	73	72	72	76·5	79						
12 "	·080	77	72	73	72	72	76·5	79						
Mean.	30·084	80·08	82·16	79·79	80·29	78·41	76·87	79·2	77·75					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
June 18.														
1 A. M.	30·072	77°	72°	73°	72°	72°	76·5°	79°			West.	1	Cumulus	b. c. w.
2 "	·068	76·5	72	72	71·5	71	76	79						
3 "	·040	76·5	70·5	71·5	71	70	76	79	75°				Clear.	b. w.
4 "	·040	76	70·5	71	70	70	76	79						
5 "	·040	74·5	70	71	69	70	76	79						b.
6 "	·040	74	72	72	77	73	76	79			N.W.	2		
7 "	·036	75	74	75	76	74	76	79					Cumulus	b. c.
8 "	·024	75	76	76	74	75	76	79						
9 "	·075	83	90	84	89	80	77	79	78°		North.			
10 "	·090	84	91	86	89	82	77	79						
11 "	·090	84	94	86	90	83	77	79						
12 "	·072	85	90	86	88	82	77	79						
1 P. M.	·072	85	84	83	83	80	77	79						
2 "	·050	82	84	84	82	81	77	79					Cum. st.	c.
3 "	·032	83	88	86	85	83	77	79	79°					
4 "	·024	85	82	81	80	79	77	79						
5 "	·024	83	78	78	75	75	77	79						
6 "	·024	80	72	78	71	72	77	79					Clear.	b.
7 "	·062	79	72	74	72	73	77	79			N.W.			
8 "	·062	78	75	76	74	74	76	79						
9 "	·062	78	75	76	74	74	76	79	76°				Cumulus	c.
10 "	·062	78	74	75	74	74	76	79						
11 "	·062	72	74	75	74	74	76	79				3		
12 "	·060	72	74	75	74	74	76	79						
Mean.	30·053	78·54	79·16	77·66	77·25	75·58	76·48	79	77					
June 19.														
1 A. M.	30·060	77·5°	74°	75°	74°	74°	77°	79°			N.W.	3	Cum. st.	c.
2 "	·060	77·5	75	75	74·5	74	77	79						
3 "	·060	78	76	76	75	75	77	79	76°					
4 "	·066	78	75	76	74	74	77	79			North.	1		
5 "	·070	78	75	76	74	74	77	79						
6 "	·070	78	75	76	74	74	77	79						
7 "	·076	77·5	79	78	78	78	77	79						
8 "	·090	79	80	79	78·5	78	77	79						
9 "	·090	80	81	81	80	79	77	79	78°	80° 75°	N.W.	3	Cumulus	b. c.
10 "	·090	81	84	84	83	80	77	79						
11 "	·100	82	89	86	86	82	78	79						
12 "	·100	85	104	95	100	88	78	79						
1 P. M.	·094	85	97	92	94	88	78	79					Nimbus.	
2 "	·080	85	88	86	86	82	78	79				2		
3 "	·066	85	91	86	88	86	77	79	79°	Hazy.	Calm.	0	Overcast.	o. m.
4 "	·050	85	86	84	84	82	78	79						
5 "	·070	81	78	77	77	76	78	79			S. E.	3		r.
6 "	·080	79	76	75	76	75	78	79						
7 "	·100	78	76	75·5	76	75	77·5	79						
8 "	·170	77	75	75·5	75	75	78	79						
9 "	·060	77	73	72	72	72	77	79	74°	Rain.				
10 "	·180	77	73	72	72	72	77	79				2		
11 "	·180	77	73	74	73	73	77	79						
12 "	·150	77	74	74	74	73	77	79						
Mean.	30·091	79·75	80·37	79·16	79·08	77·46	77·33	79	76·75					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Diree.	Force.		
June 20.														
1 A. M.	30·150	76°	74°	75°	74°	74°	77°	79°			S.W.	3	Cum. st.	c. p.
2 "	·100	76	74	75	74	74	77	79						
3 "	·120	76	74	75	74	75	76·5	79	75°					
4 "	·120	76	74	75	74	74·5	76·5	79						c.
5 "	·112	76	74	75	74	73	76·5	79			South.			
6 "	·100	76	74	75	73·5	73	76·5	79				4		
7 "	·102	75	74·5	75	73	74	76·5	79						
8 "	·120	77	75	74	79	76	76	79						
9 "	·128	77·5	86	84	82	79	76	79	78°	78° 70°				
10 "	·140	82	88	85	85	81	76	79						
11 "	·140	83	89	86	86	82	76·5	79					Clear.	b.
12 "	·140	82·5	94	92	91	86	77	79					Cumulus	c.
1 P. M.	·122	83	98	94	96	89	77	79						
2 "	·130	83·5	114	105	108	96	77	79					Clear.	b.
3 "	·120	83	98	88·5	93	84	77	80	79°	78° 68°			Cum. st.	c.
4 "	·100	81·5	82	81	81	74	77	79					Cumulus	b. c.
5 "	·100	79	77	76	76	75	76·5	79						
6 "	·100	77	75	75·5	75	74	76	79						
7 "	·108	76·5	74	75	74·5	74	76	79						
8 "	·120	77	73	74	73	73	76	79						
9 "	·140	77	72	73	72	72	76	79	76°				Clear.	b. w.
10 "	·150	76	72	72·5	70	72	76	79						
11 "	·140	76	72	73	70	72	76	79			S. S. W.			
12 "	·150	75	70	71	70	70	76	79						
Mean.	30·123	78·23	80·31	79·33	79·08	76·91	76·41	79·04	·77					
June 21.														
1 A. M.	30·110	74·5°	70°	72°	71°	71°	74·5°	79°			S. S.W.	4	Clear.	b. w.
2 "	·100	74	70·5	72	71	71	74·5	79						
3 "	·100	74·5	71	72	71	71	74·5	79	73°					
4 "	·070	73	71	72	71	71	74	79						
5 "	·070	73	70	71	70	71	74	79						
6 "	·100	72	70	71·5	70	70	74	79						
7 "	·100	72	72	75·5	72	71·5	74	79			S. S.E.		Cumulus	b. c.
8 "	·116	74·5	75	76	74	74	74·5	79						
9 "	·116	79	86	77	84	82	74·5	79	76°	78° 70°				
10 "	·120	80	96	90	93	84	75	79						
11 "	·114	81	96	90	92		75	79						
12 "	·100	82	94	92	92		75	79						
1 P. M.	·078	82	114	100	109		75	79					Clear.	b.
2 "	·058	82	114	102	107		75	79						
3 "	·060	80	84	83	83		75	79	76°	78° 70°			Cum. st.	b. c.
4 "	·060	79	82	81	80		75	79			S. E.			
5 "	·060	77	76	76	75		75	79						
6 "	·068	77	73	74	73		75	79						
7 "	·084	76	73	74	73		75	79						
8 "	·100	76	73	74	72	72	75	79					Cumulus	
9 "	·108	75	73	74	72	73	75	79	75°			3		
10 "	·100	74	70	71·5	70	70	74·5	79						
11 "	·100	74	70	71	70	70	74	79			South.			
12 "	·100	74	70	70	70	70	74	79				2		
Mean.	30·091	76·75	79·73	78·37	78·54	72·73	74·62	79	75					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
June 22.														
1 A. M.	30·088	72°	68°	68°	68°	68°	74°	79°			S. W.	2	Cumulus	b. c. w.
2 "	·080	71·5	66	67·5	66	66	74	79						
3 "	·064	70·5	67	67·5	66	66	74	79	73°					
4 "	·064	70	67	67	65·5	65·5	74	79						
5 "	·050	71	69	70·5	69	69	74	79						
6 "	·056	71·5	69	70	69	69	74	79					Cum. st.	c.
7 "	·050	71	71	71·5	70	71	74	79						
8 "	·082	73	74	74	74	74	74	79						
9 "	·102	74	79	76	76·5	75	74	79	73°	75° 68°		3		
10 "	·102	76·5	87	83·5	84	80	74	79						
11 "	·100	79	89	85	85	81	74·5	78						
12 "	·068	79	88	85	84	82	75	78						
1 P. M.	·060	79	84	85	83	82	75	79						
2 "	·028	79	84	82·5	82	80	75	79						
3 "	·100	82	85	83	82	80·5	75	79	78°			1		
4 "	·100	78	88	83	88	84	75	79					Overcast.	o.
5 "	·108	77	74	76	73	74	75	79						
6 "	·120	76·5	72	76	72	72	75	79						
7 "	·132	74	72	73	71	73	75	79						
8 "	·132	74	72	73	71·5	72	75	79					Cum. st.	c. u.
9 "	·132	74	72	73	72	72	75	79	73°					
10 "	·132	74	72	72	72	72	74	79			W. S.W.	2		
11 "	·132	74	71	71	72·5	72	74	79						
12 "	·132	73	70	71	70	70	74	79						c. l.
Mean.	30·092	74·73	75·41	75·17	74·41	73·75	74·43	78·91	74·25					
June 23.														
1 A. M.	30·132	73°	70·5°	69·5°	70·5°	69·5°	74°	79°			West.	2	Cumulus	b. c. l.
2 "	·132	72·5	70·5	70·5	70·5	69·5	74	79						
3 "	·124	72·5	70	70	70	69	74	79	72°					
4 "	·124	72	70	70	70	69	74	79						
5 "	·124	71·5	70	70	70	69	74	79			Calm.	0	Clear.	b.
6 "	·122	71	69	70	69	70	74	79			South.	2		
7 "	·100	71	71	71·5	70	71	73	79						
8 "	·106	73·5	79	76	80	75	74	79						
9 "	·162	73	93	92	90	80	74	79	74°	80° 62°				
10 "	·162	73·5	109	94	94	82	74	79				4		
11 "	·162	82	107	100	100	84	74	79						
12 "	·132	82	111	99·5	109	91	74	79						
1 P. M.	·132	84	114	104	108	94	74	79						
2 "	·132	84	108	104	104	96	74	79						
3 "	·100	82	104	95	112	88	74	79	76°	78° 66°	S.W.	3		
4 "	·082	80	80	78	78	78	74	79					Cum. st.	b. c.
5 "	·082	77	74	74	74	72	73·5	79						c. u.
6 "	·092	75	72	73	72	72	73·5	79						
7 "	·092	74	72	73	72	72	73·5	78						c. p.
8 "	·152	73	69	69	69	69·5	73	78			Var.	1		
9 "	·156	73	68	69	68	69	73	78	73°	Rain.	Calm.	0		
10 "	·156	73	68	69	68	69	72	78			Var.	1	Cumulus	b. c.
11 "	·144	71·5	67	69	67	69	72·5	78						
12 "	·144	71	67	69	67	68	72·5	78						
Mean.	30·127	75·2	81·37	79·12	79·94	75·66	73·58	78·75	73·75					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
June 24.														
1 A. M.	30·150	70·5°	68°	70°	68°	69°	72·5°	79°			South.	2	Cumulus	b. c. w.
2 "	·150	70·5	66·5	69	67	68	72	79						
3 "	·150	70	66	68	67	68	72	79	73°					
4 "	·150	69	66	67	66	67·5	72	79						
5 "	·152	69	66	67	66	66	71·5	79						
6 "	·162	69	67	67	66·5	68	71·5	79					Clear.	b.
7 "	·160	73	72	73	71	77	71·5	79						
8 "	·160	75	88	84	84	76	72·5	79			S. E.	4		
9 "	·164	78	92	85	87	78	72	79	74°				Cumulus	b. c.
10 "	·182	79	82	87	82	79	72·5	79						
11 "	·162	79	85	84	86	79	72·5	78						
12 "	·170	80	82	82	86	79	73	78						
1 P. M.	·144	88	88	85	88	89·5	73	78						
2 "	·130	81	90	85·5	86·5	81	73	78						
3 "	·104	79	82	80	80	78	73	78	74°					
4 "	·102	78	77	78	77	75	73·5	78			S. S. E.	5		
5 "	·100	77	74	75	76	73	73	78						
6 "	·100	75	72	73	71	72	73	78					Cum. st.	c.
7 "	·120	72·5	68	69·5	68	69	72	78						
8 "	·124	72	70	71	70	70	71·5	78						
9 "	·132	72·5	70	72	70	70	71	78	72°			4	Cumulus	
10 "	·132	72	70	72	70	70	71	78						
11 "	·132	71	66	67	66	66	71	78						
12 "	·132	71	66	67	66	66	72	78			Calm.	0	Clear.	b. w.
Mean.	30·140	74·62	74·73	74·91	74·37	73·08	72·16	78·42	73·25					
June 25.														
1 A. M.			68°	69°	68°	67°	72°	78°			S.W.	2	Clear.	b. w.
2 "			66	69	66	66	72	78						
3 "	30·110	71°	66	66	66	66	71	77	68°		Calm.	0		
4 "			64	65	64	64	71	77						
5 "			62	63	62	62	71·5	77						
6 "			74	70	74	74	71·5	77						
7 "			77	72	75	71	71·5	78			Var.	1		
8 "			100	89	92	81·5	72	78						
9 "	30·180	74	102	90	93	82	72	78	74°	76° 68°	Calm.	0		
10 "			104	95	90	87	72	78						
11 "			91	86	88	83	73	79						
12 "			85	82	82	78	73	79						
1 P. M.			103	98	106	89	73	79						
2 "			100	91	95	86	73	79						
3 "	30·150	77	86	84·5	84	82	73	79	76°		Var.	1		
4 "			82	80·5	80	79	73	79			Calm.	0		
5 "			77	76	76	76	73	80						
6 "			71·5	72	70	70	73	80					Cumulus	c.
7 "			71	72	70	71	73·5	80						
8 "			71	72	70	71	73	79						
9 "	30·150	74	70	70	70	70	73	79			S.W.	1		
10 "			69	70	69	69	73	79						
11 "			69	70	69	69	73	78						
12 "			68	70	68	69	72	78						
Mean.	30·147	74	78·95	76·75	76·95	74·66	72·54	78·46	72·66					

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

DAILY MEANS.

1840.	Barom.	THERMOMETERS.							
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.
May 18th.	30·086	82·91°		82·95°		80·58°	80·58°	81°	80·67°
" 19th.	·139	81·04		79·2		77·79	79·25	81	79
" 20th.	·178	79·04		79·33		77·7	78·2	80·62	78
" 21st.	·173	79·33	78·35°	78·66		76·58	78·08	81	77·75
" 22d.	·165	78·75	78·12	78·52		75·75	78·19	81	77·5
" 23d.	·162	81·62	81·41	80·16		77·83	77·79	81	77·75
" 24th.	·162	79·5	78·25	79·06		73·85	77·58	81	78·33
" 25th.	·168	78·92	80.1	79·06		76·9	76·13		
" 26th.	·191	79·02	79·98	80·18		77·58	76·44	80·87	77·25
" 27th.	·216	82·52	82·23	81·04		79·37	76·08	80·75	78
" 28th.	·195	81·9	83·25	82·54		80·12	77·19	81	77·25
" 29th.	·139	82·73	84·37	82·87		80·23	77·9	80·83	79·25
" 30th.	·120	81·25	82·1	80·14		79·29	78·81	80·75	78·75
" 31st.	·148	81·75	81·83	80·97		78·81	78·21	80·87	78·75
June 1st.	·161	80·08	78·54	79·12		77·68	78·7	80·91	77·5
" 2d.	·158	82·29	83·25	81·37		79·75	78·83	81	79·25
" 3d.	·137	81·25	81·91	80·66		79·7	79·33	80·5	80·25
" 4th.	·135	81·33	81·87	80·54	80·41°	79·54	79·41	80·66	78
" 5th.	·147	78·04	74·16	75·66	74·37	73·62	79·25	80·16	76·25
" 6th.	·141	80·54	76·83	77·62	76·66	76·83	79·12	80·33	77
" 7th.	·128	81·29	83·8	82·04	82·25	79·41	78·41	80·58	78·75
" 8th.	·110	81·46	81·5	81·37	80·4	79·75	79·12	80·96	79·25
" 9th.	·098	80·45	80·87	79·58	80·54	78·91	78·33	80	78·75
" 10th.	·070	76·45	75·66	75·45	75·95	75·37	78·58	79·92	76·5
" 11th.	·085	78·69	81·75	80·35	80·73	78·06	77·25	79·62	76·5
" 12th.	·118	78·54	82·9	80·08	83·16	78·42	77·31	80	76·25
" 13th.	·115	79·33	82·79	80·33	80·08	79	77·33	79·16	76·25
" 14th.	·148	79·08	85·12	81·06	83·12	79·25	76·45	79	77
" 15th.	·145	80·83	84·75	81·54	83·04	79·79	76·25	79·2	78·5
" 16th.	·120	82·16	82·33	77·87	83·62	79·02	76·79	79	77
" 17th.	·084	80·08	82·16	79·79	80·29	78·41	76·87	79·2	77·75
" 18th.	·053	78·54	79·16	77·66	77·25	75·58	76·48	79	77
" 19th.	·091	79·75	80·37	79·16	79·08	77·46	77·33	79	76·75
" 20th.	·123	78·23	80·31	79·33	79·08	76·91	76·41	79·04	77
" 21st.	·091	76·75	79·73	78·37	78·54	72·73	74·62	79	75
" 22d.	·092	74·73	75·41	75·17	74·41	73·75	74·43	78·91	74·25
" 23d.	·127	75·2	81·37	79·12	79·94	75·66	73·58	78·75	73·75
" 24th.	·140	74·62	74·73	74·91	74·37	73·08	72·16	78·42	73·25
" 25th.	·147	74	78·95	76·75	76·95	74·66	72·54	78·46	72·66
General Mean.	30·131	79·59	80·29	79·45	79·28	77·54	77·31	79·80	77·33

OBSERVATORY.

OVOLAU, FEEJEE GROUP.

RESULTS.

BAROMETER.

Mean for 39 days,	30·131
Highest mean,	30·216
Lowest mean,	30·053
Highest point,	30·280
Lowest point,	30·024

THERMOMETER WITH BLACK WOOL.

Mean for 36 days,	80·29°
Highest mean,	85·12
Lowest mean,	74·16
Highest point,	119
Lowest point,	62

THERMOMETER WITH WHITE WOOL.

Mean for 22 days,	79·28°
Highest mean,	83·62
Lowest mean,	74·37
Highest point,	118
Lowest point,	62

THERMOMETER IN HOLE.

Mean for 39 days,	77·31°
Highest mean,	80·58
Lowest mean,	72·16
Highest point,	89
Lowest point,	71

ATTACHED THERMOMETER.

Mean for 39 days,	79·59°
Highest mean,	82·91
Lowest mean,	74
Highest point,	94
Lowest point,	69

THERMOMETER WITH BLACK BULB.

Mean for 39 days,	79·45°
Highest mean,	82·95
Lowest mean,	74·91
Highest point,	112
Lowest point,	63

THERMOMETER WITH NO WOOL.

Mean for 39 days,	77·54°
Highest mean,	80·58
Lowest mean,	72·73
Highest point,	105
Lowest point,	62

TEMPERATURE OF WATER.

Mean for 38 days,	79·8°
Highest mean,	81
Lowest mean,	78·42
Highest point,	81
Lowest point,	77

THERMOMETER AT MAST-HEAD.

Mean for 38 days,	77·33°
Highest mean,	80·67
Lowest mean,	72·66
Highest point,	84
Lowest point,	88

U. S. SHIP VINCENNES.

OVOLAU, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
June 26.												
1 A. M.			72°	78°				Var.	1	Cum. st.	c.	
2 "			73	78								
3 "			72	79	70°	29·960	72° 67°					
4 "			73	79								
5 "			73	79				Calm.	0	Over-	o.	
6 "			73	79						cast.		
7 "			73	79								
8 "			76	79								
9 "			79	79	76°	29·960	77° 62°	N. W.	3	Cum.	c.	Broke up the Observatory and removed the instruments to the ship.
10 "			79	79								
11 "			79	79								
12 "	Ovolau.		79	79								
1 P. M.			79	79								
2 "			80	79						Clear.	b.	
3 "			79	79	78°	29·880	78° 62°					
4 "			78	79					4	Nimbus	c. u.	
5 "			77	79								
6 "			77	79								
7 "			77	79				West.	5		c. q.	
8 "			77	79								
9 "			75	78	72°	29·960	Rain.				c. q. p.	
10 "			71	78								
11 "			72	77					8		q.	
12 "			72	78					5		c. q.	
Mean.			75·62	78·7	74	29·940						
June 27.												
1 A. M.			72°	78°				S. W.	7	Nimbus	c. q.	
2 "			72	78								
3 "			72	78	70°	29·900				Cum. st.		
4 "			72	77								
5 "			73	78								
6 "			74	78					6		c.	
7 "			74	78								
8 "			74	78					4	Cum.	b. c.	Boats employed surveying.
9 "			74	78	72°	30·000	75° 73°	South.				
10 "			74	78				S. E.	3			
11 "			74	78							c.	
12 "	Ovolau.		75	78								
1 P. M.			74	78						Cum. st.		
2 "			74	78								
3 "			74	78	73°	29·950	75° 68°					
4 "			73	78					4			
5 "			73	78								
6 "			73	78								
7 "			72	78								
8 "			72	78								
9 "			71	78	71°	30·000						
10 "			71	78				South.	3			
11 "			71	78								
12 "			71	78								
Mean.			72·87	77·96	71·5	29·963						

U. S. SHIP VINCENNES.

FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
June 28.												
1 A. M.			71°	78°				South.	3	Cum.	b. c.	
2 "			71	78								
3 "			71	78	71°							
4 "			71	78								
5 "			71	78								
6 "			71	78								
7 "			73	78				S. E.				
8 "			74	78								Got under way.
9 "			75	79	74°	30·060	76° 62°			Clear.	b.	
10 "			75	79								Standing to the N. E.
11 "			75	78								
12 "			75	78					4			
1 P. M.			74	79								Saw several sperm
2 "			75	79						Cum.	b. c.	whales.
3 "	Feejee Group.		75	79	74°	30·000	77° 60°		5			
4 "			75	79								
5 "			75	79								Anchored near Direc-
6 "			75	79						Cum. st.		tion Island.
7 "			74	79								
8 "			74	79					4	Clear.	b.	
9 "			73	78	72°	30·000						
10 "			73	78							b.	
11 "			73	78								
12 "			73	78					3			
Mean.			73·41	78·41	72·75	30·020						
June 29.												
1 A. M.			72°	78°				S. S. E.	2	Clear.	b.	
2 "			72	78								
3 "			72	78	71°	29·980	72° 50°					
4 "			72	78								
5 "			72	78				S. E.	1			
6 "			72	78							b.	
7 "			73	78					2			
8 "			74	78						Cirrus.	b. c.	
9 "			75	78	75°	30·050	75° 55°			Clear.	b.	
10 "			77	78								
11 "			78	78					1			
12 "			82	79					2			
1 P. M.			83	80						Cum.	b. c.	
2 "			85	80					3			
3 "	Feejee Group.		85	80	84°	30·000			2			Got under way.
4 "			78	80						Clear.	b.	
5 "			77	80								Standing for Savu
6 "			76	80								Savu Bay.
7 "			76	80						Cum. st.	c.	
8 "			76	80				Var.	1			
9 "			75	79	74°	30·000		Calm.	0			
10 "			75	79				Var.	1			
11 "			75	79								
12 "			75	79				Calm.	0			
Mean.			76·1	78·86	76	30·007						

U. S. SHIP VINCENNES.

FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
June 30.												
1 A. M.			75°	79°				Calm.	0	Cum. st.	c.	Working up for the entrance of Savu Savu Harbour.
2 "			72	79				Var.	1			
3 "			72	79	73°	29·980	74° 60°	Calm.	0			
4 "			72	79				Var.	1			
5 "			73	79								
6 "			73	79								
7 "			74	79				N. N.W.	2			
8 "			75	79						Cum.	b. c.	
9 "			75	79	76°	30·080						
10 "			78	79				N.W.	1			
11 "			77	79								
12 "			77	79								
1 P. M.			79	79				Calm.	0			
2 "			78	79				Var.	1	Cum. st.	c.	
3 "			78	79	77°	29·980						
4 "			78	79								
5 "			76	79				Calm.	0			
6 "			75	79								
7 "			77	79				N^{d}.	1			
8 "			77	79				Calm.	0			
9 "			77	79	76°	30·000		S^{d}.	1			
10 "			76	79								
11 "			75	79								Anchored in harbour of Savu Savu, in 12 fathoms water.
12 "			75	79				Calm.	0			
Mean.			76	79	75·5	30·010						
July 1.												
1 A. M.			75°	79°				N^{d}.	1	Cum. st.	c.	
2 "			75	79								
3 "			75	79	71°	30·000						
4 "			74	79								
5 "			74	79								
6 "			74	79								
7 "			74	79				S. E.	2	Cum.	b. c.	
8 "			75	79								
9 "			78	79	77°	30·020	77° 60°					
10 "			78	79								
11 "			79	79								
12 "			80	79								
1 P. M.			80	79								
2 "			83	79								Got under way and anchored farther up the bay in 30 fathoms water.
3 "			82	79	81°			E. S. E.	1			
4 "			81	79								
5 "			82	79								
6 "			79	79				Calm.	0			
7 "			77	79								
8 "			77	79				East.	1			
9 "			77	79	76°	30·000						
10 "			76	79								
11 "			76	79								
12 "			75	79								
Mean.			77·38	79	76·25	30·006						

Feejee Group. Savu Savu Bay.

U. S. SHIP VINCENNES.

SAVU SAVU BAY, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 2.												
1 A. M.			73°	79°				Var.	1	Clear.	b.	
2 "			73	79								
3 "			73	79	72°	30·000	72° 65°					
4 "			73	79								
5 "			73	79								
6 "			73	79				N.W.	2			
7 "			73	79								
8 "			74	77								
9 "			74	77	74°	30·020	74° 72°	Calm.	0			Boats absent surveying the reefs and islands.
10 "			74	77								
11 "	Savu Savu Bay.		78	79				North.	1			
12 "			78	79				Calm.	0			
1 P. M.			80	79						Cum. st.	c.	
2 "			80	79								
3 "			81	79	80°			S. W.	2			
4 "			80	80								
5 "			80	80								
6 "			79	80					1			
7 "			77	79								
8 "			75	79				N.W.				
9 "			75	79		30·000				Clear.	b. w.	
10 "			75	79								
11 "			74	78					3			
12 "			74	78								
Mean.			75·79	78·79	75·33	30·007						
July 3.												
1 A. M.			73°	78°				N.W.	4	Clear.	b. w.	
2 "			72	78								
3 "			71	78	70°	30·020						
4 "			72	78					2			
5 "			73	78							b.	
6 "			74	79								
7 "			74	79					1	Cum.	b. c.	
8 "			74	79								Boats surveying.
9 "			76	79	74°	30·100	76° 66°	S. W.	2			
10 "			76	79								
11 "	Savu Savu Bay.		78	79								
12 "			78	79								
1 P. M.			78	79					3			
2 "			78	79								Flying-Fish came in and anchored.
3 "			79	80	79°	30·040	78° 64°	South.	2	Clear.	b.	
4 "			79	80								
5 "			74	80								
6 "			74	80				S. E.	4	Cum. st.	c.	
7 "			74	80								
8 "			74	78								
9 "			74	78	73°	30·050						
10 "			74	78								
11 "			74	78								
12 "			74	78								
Mean.			74·87	78·79	74	30·052						

U. S. SHIP VINCENNES.

SAVU SAVU BAY, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 4.												
1 A. M.			73°	78°				South.	3	Cum. st.	c.	
2 "			73	78								
3 "			72	78	72°	30·080	71° 60°					
4 "			71	78								
5 "			71	78								
6 "			73	78								
7 "			73	78				S. E.	3	Clear.	b.	
8 "			73	78								
9 "			74	79	76°	30·120	76° 56°					
10 "			77	79								
11 "			76	79				S^{d}.	2	Cum.	b. c.	
12 "			76	79								
1 P. M.			78	79								
2 "			79	79								
3 "			80	79	78°	30·100	78° 60°					
4 "			78	79				S. S. W.	4	Clear.	b.	
5 "			76	79								
6 "			74	79								
7 "			74	79				S. E.	2	Cum.	b. c.	
8 "			74	79								
9 "			73	79	72°							
10 "			73	79						Cir.cum	c.	Flying-Fish went to sea.
11 "			73	79					1			
12 "			72	79				South.				
Mean.			74·41	78·66	74·5	30·100						
July 5.												
1 A. M.			74°	79°				S. S. W.	1	Cum.	b. c.	
2 "			74	79								
3 "			72	79	71°							
4 "			72	79				South.				
5 "			72	79					2	Clear.	b.	
6 "			73	79								
7 "			72	79					4			Got under way.
8 "			74	79				S. by E.				
9 "			75	79	73°	30·120			6			
10 "			76	79								
11 "			75	79								
12 "			76	79								
1 P. M.			75	79				S. E.	5			
2 "			74	79								
3 "			76	78	75°	30·060	76° 54°					
4 "			76	77								Anchored in seven and a half fathoms water, in Mbua Bay.
5 "			76	79								
6 "			74	77								
7 "			73	79					4			
8 "			73	79							b.	
9 "			73	79	72°							
10 "			72	76								
11 "			73	76								
12 "			73	76								
Mean.			73·96	78·41	72·75	30·090						

Savu Savu Bay.

Savu Savu Bay.

U. S. SHIP VINCENNES.

MBUA BAY, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 6.												
1 A. M.			73°	77°				S. E.	4	Clear.	b.	
2 "			73	77								
3 "			73	76	71°							
4 "			73	76								
5 "			73	76						Cum.	b. c.	
6 "			73	76					5			
7 "			73	76						Cum. st.	c.	
8 "			73	76								
9 "			73	76	72°	30·100	76° 64°					
10 "			74	76								
11 "	Mbua Bay.		76	76								Boats employed surveying.
12 "			77	77					7			
1 P. M.			75	77								
2 "			76	77								
3 "			75	77	75°							
4 "			75	77					8			
5 "			74	76								
6 "			74	76								
7 "			74	76					7			
8 "			74	76								
9 "			73	76	73°	30·100						
10 "			73	76					9	Nimbus	c. u.	
11 "			73	76								
12 "			72	76								
Mean.			73·83	76·29	72·75	30·100						
July 7.												
1 A. M.			72°	76°				S. E.	8	Nimbus	c. q. p.	
2 "			72	76								
3 "			73	76	70°							
4 "			73	76					10			
5 "			73	76								
6 "			73	76							d.	
7 "			73	76								
8 "			73	76							c. q.	
9 "			74	76	74°	30·120	76° 64°		9			
10 "			75	76								
11 "	Mbua Bay.		75	76						Cum. st.		
12 "			77	76								
1 P. M.			74	76				S. E. by S.			c. q. p.	
2 "			74	76								
3 "			74	76	72°	30·050	Rain.					
4 "			74	76					10		c. q. p.	
5 "			73	76					9			
6 "			73	76								
7 "			70	74					8			
8 "			70	74				S. E.				
9 "			70	74	71°	30·100	Rain.		10		q.	
10 "			70	74					8		c. q.	
11 "			70	74								
12 "			70	75								Saw a lunar rainbow in the N. E., altitude 36°.
Mean.			72·71	75·54	71·75	30·090						

U. S. SHIP VINCENNES.

MBUA BAY, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 8.												
1 A. M.			70°	75°				S. S. E.	9	Cum. st.	c. q. p.	
2 "			70	75								
3 "			70	75	68°					Cir. stra.		
4 "			70	75								
5 "			70	75							c. q.	
6 "			70	74					8		c. q. p.	
7 "			71	74								
8 "			70	74								
9 "			70	75	69°	30·140	Rain.					Boats absent on surveying duty.
10 "			71	75								
11 "			74	76				S. E.				
12 "			74	76								
1 P. M.	Mbua Bay.		74	76					9			
2 "			74	76					8			
3 "			74	76	73°	30·100	Rain.					
4 "			74	76								
5 "			74	76				S. E. by S.			c. q.	
6 "			70	76							c. q. p.	
7 "			68	75								
8 "			69	74								
9 "			70	75	68°	30·150	Rain.					
10 "			70	75								
11 "			70	75								
12 "			70	75								
Mean.			71·12	75·16	69·5	30·130						
July 9.												
1 A. M.			70°	75°				S. E.	8	Cum. st.	c. q.	
2 "			70	75								
3 "			70	75	70°							
4 "			70	75								
5 "			69	74					9			
6 "			69	74					8		c. q. r.	
7 "			68	74								
8 "			69	74								
9 "			73	75	71°	30·140	68° 64°		7		c. q.	
10 "			72	75					9		c. q. p.	
11 "			70	75				S.E. by E.	8			
12 "			70	75								
1 P. M.	Mbua Bay.		70	75								
2 "			70	75							b. c. q.	
3 "			71	75	70°	30·110	74° 68°					
4 "			72	75								
5 "			73	75				S. E.				
6 "			73	75							c. q. p.	
7 "			71	75								
8 "			71	75								
9 "			72	75	70°	30·200						
10 "			72	75							c. q.	
11 "			71	75								
12 "			71	75								
Mean.			70·7	74·83	70·25	30·150						

U. S. SHIP VINCENNES.

MBUA BAY, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 10.												
1 A. M.			69°	74°				S. E.	8	Cum. st.	c. p.	
2 "			69	74								
3 "			70	74	69°	30·200	Rain.					
4 "			71	74								
5 "			72	75				E. S. E.	7		c. q.	
6 "			73	75								
7 "			74	75								
8 "			74	75								
9 "			75	75	73°	30·180	72° 62°					
10 "			75	75								Shifted our anchorage.
11 "			75	73					8	Cir. stra.		
12 "			75	73								
1 P. M.			76	75					9			
2 "			74	75								
3 "	Mbua Bay.		75	75	73°	30·150	74° 64°					
4 "			74	75								
5 "			74	75				S.E. by E.		Cum. st.		
6 "			74	75								
7 "			73	75					8			
8 "			72	75								
9 "			73	75	71°	30·200	Rain.	E. S. E.			c. q. p.	
10 "			73	75					10		c. q.	
11 "			70	75					8		c. q. p.	
12 "			71	75								
Mean.			72·96	74·66	71·5	30·182						
July 11.												
1 A. M.			70°	75°				E. S. E.	7	Nimbus	c. q. d.	
2 "			70	75								
3 "			69	75	67°	30·180	Rain.					
4 "			69	75								
5 "			70	75								
6 "			72	75								
7 "			72	75				East.	6		c. q.	
8 "			70	75								Boats absent on surveying duty.
9 "			70	75	69°	30·180			8	Cum. st.		
10 "			71	75					6			
11 "			74	75								
12 "			75	76							b. c.	
1 P. M.			75	75								
2 "	Mbua Bay.		76	75								
3 "			76	76	75°	30·100	73° 64°					
4 "			75	76					5			
5 "			75	76								
6 "			75	76								
7 "			74	76					6		c.	
8 "			74	76								
9 "			74	76	74°						b. c.	
10 "			74	76								
11 "			74	75								
12 "			74	75								
Mean.			72·83	75·37	71·25	30·153						

U. S. SHIP VINCENNES.

MBUA BAY, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS.			Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
			Air.	Water.	Mast-head.			Direc.	Force.			
July 12.												
1 A. M.			73°	76°				East.	6	Cum. st.	c. q.	
2 "			73	76								
3 "			73	76	72°	30·100						
4 "			73	76								A lunar rainbow in the east; altitude 48°.
5 "			73	76								
6 "			73	76					5			
7 "			73	76								
8 "			74	76						Clear.	b.	
9 "			76	76	75°	30·150						
10 "			77	76					7	Cum.	b. c. q.	
11 "	Mbua Bay.		77	76					5			
12 "			79	76								
1 P. M.			78	77								
2 "			78	77					4		b. c.	
3 "			77	76	76°	30·050						
4 "			76	76				E. S. E.				
5 "			74	76								
6 "			73	76								
7 "			74	76								
8 "			74	76				S. E.				
9 "			74	75	73°	30·100				Clear.	b.	
10 "			74	75				E. S. E.				
11 "			74	75								
12 "			74	75				East.				
Mean.			74·75	75·91	74	30·100						
July 13.												
1 A. M.			73°	76°				East.	4	Clear.	b.	
2 "			73	76								
3 "			73	76	76°							
4 "			73	76								
5 "			74	76				S. E.	5			
6 "			75	76						Cum.	b. c.	
7 "			75	76								
8 "			76	76								
9 "			77	76	76°	30·100			4			
10 "			78	76								
11 "			77	76								
12 "	Mbua Bay.		77	77				S. S. E.				
1 P. M.			77	77						Cum. st.	c.	
2 "			76	77								
3 "			75	76	75°	30·100			3			
4 "			75	76						Cum.	b. c.	
5 "			74	76								
6 "			74	76				S. E.	2			
7 "			74	76								
8 "			74	76					3			
9 "			75	76	73°				4			
10 "			74	76								
11 "			74	76								
12 "			74	76								
Mean.			74·87	76·12	73·75	30·100						

U. S. SHIP VINCENNES.

MBUA BAY, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 14.												
1 A. M.			74°	76°				East.	2	Cum.	b. c.	
2 "			73	75								
3 "			73	75	72°	30·110						
4 "			73	75					3			
5 "			76	75						Cir. stra.	c.	
6 "			76	75								
7 "			76	75						Over-	o.	
8 "			76	75						cast.		
9 "			77	76	76°	30·100						
10 "			77	76								
11 "	Mbua Bay.		78	76				S. E.				
12 "			79	77								
1 P. M.			79	77								
2 "			79	77					2	Cir. stra.	c.	
3 "			78	77	78°	30·080						
4 "			77	77								
5 "			77	77								
6 "			77	77								
7 "			76	77								
8 "			76	77								
9 "			76	77	75°	30·100						
10 "			76	77				Var.	1			
11 "			74	76				Calm.	0			
12 "			74	76				Var.	1			
Mean.			76·12	76·16	75·25	30·097						
July 15.												
1 A. M.			74°	76°				S. E.	1	Cir. stra.	c.	
2 "			74	75								
3 "			74	75	73°							
4 "			74	76								
5 "			74	76						Over-	o.	
6 "			75	76						cast.		
7 "			76	76					2			
8 "			76	76								
9 "			80	76	78°	30·080						
10 "			80	77					5			Boats surveying.
11 "			81	78				East.				
12 "			81	79								
1 P. M.			81	78								
2 "			80	78				N. E.	2		c. u.	
3 "	Mbua Bay.		79	78	77°	30·100	81° 75°					
4 "			79	78								
5 "			78	78				S. E.	1			
6 "			78	78						Cum. st.		
7 "			76	77								
8 "			76	77					2			
9 "			75	77	73°	30·050				Nimbus		
10 "			75	77								
11 "			75	77								
12 "			75	77					4			
Mean.			76·91	76·91	75·25	30·077						

U. S. SHIP VINCENNES.

MBUA BAY, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 16.												
1 A. M.			76°	76°				S. E.	5	Stratus.	c.	
2 "			76	76								
3 "			76	76	74°	30·020						
4 "			75	76								
5 "			75	76					4			
6 "			75	76						Cum. st.		
7 "			75	76								
8 "			75	76								
9 "			77	78	75°	30·060	79° 72°					
10 "			77	78					6			
11 "			77	78							b. c.	
12 "	Mbua Bay.		77	78				S. S. E.				Boats surveying.
1 P. M.			77	77								
2 "			76	77								
3 "			76	77	75°	30·000	80° 73°					
4 "			76	77								
5 "			76	77								
6 "			76	76								
7 "			77	76					4			
8 "			76	76								
9 "			75	76	74°	30·000		S. E.				
10 "			75	76					6		c. d.	
11 "			75	76								
12 "			74	76							c.	
Mean.			75·83	76·54	74·5	30·020						
July 17.												
1 A. M.			73°	76°				S. E.	6	Cum. st.	b. c.	
2 "			73	76								
3 "			73	76	72°							
4 "			73	76								
5 "			73	76					4			
6 "			73	76								
7 "			74	76								
8 "			74	76						Cum.	c.	
9 "			76	76	74°	30·050	75° 70°	E. S. E.	5			
10 "			73	76								
11 "			76	76								
12 "	Mbua Bay.		75	76								
1 P. M.			76	76				East.				
2 "			76	76						Clear.	b.	
3 "			75	76	75°	30·000	74° 71°		4			
4 "			75	76				E. S. E.				
5 "			75	76					6			
6 "			74	76					4			
7 "			74	76								
8 "			75	76					5			
9 "			75	76	74°	30·050		S. E.	4			
10 "			74	76					5			
11 "			74	76								
12 "			74	76				E. S. E.	4			
Mean.			74·29	76	73·75	30·033						

U. S. SHIP VINCENNES.

MBUA BAY, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 18.												
1 A. M.			74°	76°				E. S. E.	4	Cum. st.	c.	
2 "			74	76								
3 "			73	76	72°							
4 "			73	76								
5 "			73	76				S. E.		Clear.	b.	
6 "			74	76								
7 "			75	76								
8 "			76	76								
9 "			77	76	76°	30·050	76° 69°					
10 "			76	76					5			Surveying the bay with the boats.
11 "			77	76						Cum.	b. c.	
12 "	Mbua Bay.		77	76								
1 P. M.			77	76								
2 "			77	76					4			
3 "			77	77	75°	30·040	76° 65°					
4 "			77	77								
5 "			74	77					3			
6 "			74	77								
7 "			74	76					1			
8 "			74	76								
9 "			74	76	72°	30·050						
10 "			73	76				East.	3			
11 "			73	76						Clear.	b.	
12 "			73	76								
Mean.			74·83	76·16	73·75	30·047						
July 19.												
1 A. M.			73°	76°				East.	3	Clear.	b.	
2 "			73	76								
3 "			70	76	70°				1			
4 "			70	76								
5 "			71	76				N.W.	1	Cir. stra.	c. u.	
6 "			72	76								
7 "			70	76								
8 "			71	76								Boats absent surveying.
9 "			76	76	76°	30·050						
10 "			76	76				East.	3	Cirrus.	b. c.	
11 "			77	76								
12 "			79	77								
1 P. M.			79	77					2			
2 "			79	77				S. E.				
3 "	Mbua Bay.		79	77	76°	30·060				Clear.	b.	
4 "			79	77								
5 "			77	76				E. S. E.	1			
6 "			76	76					2			
7 "			76	76					1			
8 "			75	76				East.				
9 "			75	76		30·040	78° 72°					
10 "			75	76					2			
11 "			75	76								
12 "			75	76								
Mean.			74·91	76·21	74	30·050						

U. S. SHIP VINCENNES.

MBUA BAY, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS.			Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
			Air.	Water.	Mast-head.			Direc.	Force.			
July 20.												
1 A. M.			75°	76°				S. W.	2	Cum.	c.	
2 "			75	76								
3 "			78	76	72°	30·100						
4 "			73	76				S. S. E.	1			
5 "			74	76							b. c.	
6 "			74	76								
7 "			74	76								
8 "			75	76					3	Clear.	b.	
9 "			77	76	76°	30·100	76° 70°					
10 "			78	76								
11 "			79	77								
12 "			80	77					4			
1 P. M.			80	77				S. E.				
2 "			79	77								
3 "	Mbua Bay.		79	77	77°	30·100	78° 68°					
4 "			78	77								
5 "			77	77								
6 "			76	76					3			
7 "			75	76								
8 "			75	76								
9 "			75	76	73°	30·100			2			
10 "			75	76								
11 "			75	76								
12 "			75	76								
Mean.			76·08	76·29	74·5	30·100						
July 21.												
1 A. M.			74°	76°				S. E.	2	Clear.	b.	
2 "			74	76								
3 "			73	76	71°							
4 "			73	76								
5 "			73	76								
6 "			73	76					3			
7 "			74	76								
8 "			76	76								
9 "			78	77	76°	30·120	77° 71°		4			
10 "			77	77				S. S. E.				
11 "			78	77					5	Cum.	b. c.	
12 "			79	77								
1 P. M.			79	77								
2 "			78	77								
3 "	Mbua Bay.		79	77	78°	30·050	79° 70°					
4 "			79	77					4	Clear.	b.	
5 "			77	76				S. E.				
6 "			76	76								
7 "			76	76								
8 "			76	76								
9 "			75	76	74°	30·060			3	Cum. st.	b. c.	
10 "			75	76								
11 "			75	76								
12 "			75	76								
Mean.			75·91	76·33	74·75	30·077						

U. S. SHIP VINCENNES.

MBUA BAY, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 22.												
1 A. M.			75°	76°				S. E.	2	Clear.	b.	
2 "			75	76								
3 "			74	76	73°							
4 "			74	76								
5 "			74	76								
6 "			74	76								
7 "			74	76								
8 "			75	76					3			
9 "			79	76	78°	30·050	77° 71°		4			
10 "			79	76								
11 "	Mbua Bay.		79	77						Cum.	b. c.	The Peacock went to sea.
12 "			80	77								
1 P. M.			79	77								Boats surveying.
2 "			79	77								
3 "			79	78	78°	30·000	79° 71°					
4 "			79	78								
5 "			77	77						Clear.	b.	
6 "			77	77								
7 "			76	77					3			
8 "			76	77								
9 "			75	77	73°	30·050						
10 "			75	77								
11 "			72	76					2			
12 "			72	76								
Mean.			76·16	76·58	75·5	30·033						
July 23.												
1 A. M.			72°	76°				S. E.	1	Clear.	b.	
2 "			72	76				N.W.	2			
3 "			73	76	72°							
4 "			74	76						Cum.	c.	
5 "			74	76								
6 "			74	76				S. S. E.	1			
7 "			75	77								
8 "			77	78						Clear.	b.	
9 "			79	78	76°	30·050	76° 70°					
10 "			79	78								
11 "	Mbua Bay.		77	77				South.	4			
12 "			77	77								
1 P. M.			78	77								
2 "			78	77								
3 "			79	78	78°	29·970	80° 68°					
4 "			78	78								
5 "			77	78				S. E.				
6 "			76	77					3			
7 "			75	76								
8 "			74	76								
9 "			74	76	76°	30·000						
10 "			74	76				S. S. E.	2			
11 "			74	76								
12 "			74	76								
Mean.			75·58	76·75	75·5	30·007						

U. S. SHIP VINCENNES.

MBUA BAY, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 24.												
1 A. M.			73°	76°				South.	3	Clear.	b.	
2 "			73	76								
3 "			74	76	73°	30·000						
4 "			73	76					1			
5 "			72	78								
6 "			73	76				East.				
7 "			74	77						Cum.	b. c.	
8 "			75	77								
9 "			77	77	77°	30·000	75° 70°					
10 "			78	77				S. E.	3			
11 "	Mbua Bay.		78	78								
12 "			78	78								
1 P. M.			76	77					4	Clear.	b.	
2 "			76	77								
3 "			77	77	76°	29·950	78° 72°		5			
4 "			78	77								
5 "			77	77								
6 "			77	77						Cir.cum	b. c.	
7 "			77	77					4			
8 "			73	76								
9 "			73	76	72°	30·000		E. S. E.				
10 "			73	76					3			
11 "			73	76								
12 "			73	76								
Mean.			75·04	76·71	74·5	29·987						
July 25.												
1 A. M.			73°	76°				E. S. E.	2	Cum.	b. c.	
2 "			73	76								
3 "			73	76	71°			East.	1			
4 "			73	76								
5 "			72	76								
6 "			72	76				N. E.	2			
7 "			72	76						Clear.	b.	
8 "			73	76								
9 "			76	77	76°	29·980	75° 71°					
10 "			76	78				E. S. E.	3			
11 "			76	78								
12 "			76	78								
1 P. M.			76	78					4			
2 "			76	78								
3 "	Mbua Bay.		77	78	75°	29·950	78° 72°	South.				
4 "			77	78								
5 "			76	78								
6 "			75	77					5			
7 "			75	77								
8 "			75	77					4			
9 "			75	77	73°	30·000		S. E.	3			
10 "			73	76								
11 "			73	75								
12 "			73	75				Calm.	0		b. w.	
Mean.			74·42	77·92	73·75	29·977						

U. S. SHIP VINCENNES.

MBUA BAY, FEEJEE GROUP.

1840.	Lat. South.	Long. Eaat.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 26.												
1 A. M.			72°	75°				Calm.	0	Clear.	b. w.	
2 "			72	75				N.E.	2			
3 "			72	75	70°							
4 "			72	75							b.	
5 "			72	75				Calm.	0			
6 "			73	76								
7 "			73	77								
8 "			77	77				South.	1			
9 "			77	77	76°	30·000	74° 70°					
10 "			77	77								
11 "			77	77					3			
12 "	Mbua Bay.		76	78						Cum.	b. c.	
1 P. M.			76	78								
2 "			76	78					4	Clear.	b.	
3 "			76	78	74°	30·000						
4 "			76	78								
5 "			77	78								
6 "			76	77								
7 "			75	77								
8 "			75	77								
9 "			75	77	74°	30·000		S. E.	3		b. w.	
10 "			74	76					2			
11 "			73	77								
12 "			73	77								
Mean.			73·66	76·75	73·5	30·000						
July 27.												
1 A. M.			73°	76°				E. S. E.	3	Clear.	b. w.	
2 "			73	76								
3 "			72	76	70°	29·980						
4 "			72	76					1			
5 "			72	76							b.	
6 "			72	76								
7 "			73	77				East.				
8 "			74	77								
9 "			75	77	74°	30·000	73° 70°		2			
10 "			78	77				S. E.				
11 "			79	78								
12 "	Mbua Bay.		80	79						Cum.		
1 P. M.			79	78				South.				
2 "			79	78								
3 "			80	78	78°	29·950	78° 70°					
4 "			79	78				Calm.	0			
5 "			79	78				N. W.	1			
6 "			78	78								
7 "			77	78						Cum. st.	c.	
8 "			76	78					3			
9 "			75	78	73°	29·980						
10 "			75	76					4			
11 "			75	76								
12 "			75	76								
Mean.			75·83	77·12	73·75	29·978						

U. S. SHIP VINCENNES.

MBUA BAY, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 28.												
1 A. M.			75°	78°				West.	4	Cum. st.	c.	
2 "			75	78								
3 "			75	77	73°	30·000						
4 "			75	77								
5 "			75	77				N. W.				
6 "			75	77								
7 "			75	77				West.				
8 "			76	77					3			
9 "			76	77	75°	30·000	76° 68°					
10 "			77	77								
11 "	Mbua Bay.		79	78				S. W.	2			
12 "			79	78						Cum.		
1 P. M.			81	78								
2 "			80	78								
3 "			80	78	79°	29·980	80° 68°	West.	3			
4 "			79	78								
5 "			77	78						Clear.	b.	
6 "			76	78				North.				
7 "			76	77								
8 "			76	77						Cum.	c.	
9 "			76	77	74°	29·980						
10 "			76	77				N. E.	1			
11 "			76	77								
12 "			76	77				Calm.	0			
Mean.			76·71	77·42	75·25	29·990						
July 29.												
1 A. M.			74°	76°				West.	2	Clear.	b.	
2 "			73	76								
3 "			73	76	72°							
4 "			73	76								
5 "			73	76				S. W.				
6 "			73	76								Got under way and stood to the westward.
7 "			73	76								
8 "			76	76						Stratus.	c.	
9 "			78	77	76°	30·000	80° 74°	S.W.byS.				
10 "			79	78								
11 "			78	79						Over-cast.	o.	Steering to the northeastward.
12 "			80	79								
1 P. M.			84	79								
2 "			84	79				West.	1		o. m.	
3 "			82	79	82°	29·990	80° 74°					
4 "			81	79								
5 "			79	78				S. E.	2			
6 "			78	78								
7 "			76	78						Cum. st.	c.	Anchored in four and a half fathoms water, between Naloa and Tavea Islands.
8 "			75	78					3			
9 "			76	78	75°	30·000						
10 "			75	78					1			
11 "			76	78								
12 "			75	78								
Mean.			76·83	77·54	76·25	29·997						

U. S. SHIP VINCENNES.

MUTHUATA HARBOUR, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 30.												
1 A. M.			74°	79°				S. E.	2	Stratus.	c.	
2 "			74	79								
3 "			74	79	72°	30·000						
4 "			74	79					3			
5 "			74	78								
6 "			75	78					2			
7 "			76	78								
8 "			76	78								
9 "			78	78	77°	30·020	76° 70°		4	Over-	o.	
10 "			81	78						cast.		
11 "			81	79								
12 "			81	79								
1 P. M.			78	79						Cir. stra.	c.	Got under way, steering to the northeastward.
2 "			78	79								
3 "			77	78	76°							
4 "			77	78					1			
5 "			77	78								Anchored in Muthuata Harbour, in 10 fathoms water.
6 "			76	78						Clear.	b.	
7 "			76	78								
8 "			75	78					3			The Peacock joined company.
9 "			75	77	73°	30·020						
10 "			75	77								
11 "			75	77						Cum.	b. c.	
12 "			75	77								
Mean.			76·33	78·16	74·5	30·013						
July 31.												
1 A. M.			76°	79°				S. E.	3	Cum.	b. c. q.	
2 "			76	79								
3 "			75	78	74°							
4 "			75	78								
5 "			75	79					4	Stratus.	c.	
6 "			76	79								
7 "			78	79								
8 "			79	79					2	Clear.	b.	
9 "			79	79	79°	30·020	79° 68°					
10 "			79	79					1			
11 "			80	79				N. W.	2	Cir. stra.	c.	
12 "			80	79								
1 P. M.			82	79								Boats returned from surveying duty, bringing the intelligence of the murders at Maloio.
2 "			82	79								
3 "			81	80	79°	30·000	82° 72°	Var.	1	Clear.	b.	
4 "			79	80								
5 "			78	79								
6 "			78	79				N. W.	2			
7 "			78	79								
8 "			78	79								
9 "			77	79	76°	30·020						
10 "			77	79				Var.	1			
11 "			77	79								
12 "			75	78								
Mean.			77·91	78·96	77	30·013						

Muthuata Harbour.

U. S. SHIP VINCENNES.

MUTHUATA HARBOUR, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 1.												
1 A. M.			75°	78°				Calm.	0	Clear.	b. w.	
2 "			75	78								
3 "			75	78	75°							
4 "			75	78								
5 "			75	79							b.	
6 "			75	79								
7 "			75	79								
8 "			77	79								
9 "			79	79	78°	30·020	76° 70°					
10 "			79	78				N.W.	2			
11 "			81	80								
12 "			80	80								
1 P. M.			80	80					4			
2 "			81	80								
3 "			81	80	80°	30·030	80° 70°	Var.	1			
4 "			80	80								
5 "			81	80				N. E.	3			
6 "			78	79								
7 "			78	79								
8 "			78	79				Calm.	0			
9 "			76	79	75°	30·050					b. w.	
10 "			77	79								
11 "			74	79								
12 "			74	79								
Mean.			77·46	79·08	77	30·033						
Aug. 2.												
1 A. M.			74°	79°				Calm.	0	Clear.	b. w.	
2 "			74	79								
3 "			74	79	72°							
4 "			74	79								
5 "			74	79				N. E.	1			
6 "			75	79						Cirrus.	b. c.	
7 "			75	79								
8 "			76	79								
9 "			77	79	75°	30·050	74° 67°		4			
10 "			78	79								
11 "			79	79								
12 "			80	79				North.	3			The American whale-ship Triton arrived.
1 P. M.			80	79								
2 "			80	79						Clear.	b.	
3 "			80	80	79°	30·000	77° 67°					
4 "			80	80				Calm.	0			
5 "			80	80								
6 "			77	79								
7 "			77	79				Var.	1			
8 "			76	79								
9 "			75	79	74°	30·000		Calm.	0			
10 "			75	79								
11 "			75	79								
12 "			75	79								
Mean.			76·66	79·12	75	30·017						

Muthuata Harbour.

Muthuata Harbour.

U. S. SHIP VINCENNES.

MUTHUATA HARBOUR, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 3.												
1 A. M.			75°	79°				Calm.	0	Clear.	b. w.	
2 "			75	79				S. E.	1			
3 "			75	79	73°							
4 "			75	79								
5 "			75	79							b.	
6 "			75	79				Calm.	0			
7 "			76	79				Var.	1			
8 "			78	79								
9 "			79	79	75°	30·050	78° 75°					
10 "	Muthuata Harbour.		80	80				East.	2			
11 "			80	80								
12 "			80	80								
1 P. M.			81	80								
2 "			81	80				N. E.	1			
3 "			80	80	79°	30·020	78° 71°					
4 "			80	80				South.	2	Cir. stra.	c.	
5 "			78	79								
6 "			75	79				S. E.	1			
7 "			75	79								
8 "			75	79				Var.				
9 "			75	79	75°	30·000				Stratus.		
10 "			75	79								
11 "			75	79				S. E.	4	Over-cast.	o. q.	
12 "			75	79								
Mean.			77	79·29	75·5	30·023						
Aug. 4.												
1 A. M.			75°	79°				S. E.	6	Over-cast.	o. q.	
2 "			75	79								
3 "			75	79	73°				7			
4 "			75	79								
5 "			74	78						Clear.	b. q.	
6 "			74	78								
7 "			75	78								
8 "			77	78					6			
9 "			77	78	76°	30·020						
10 "			77	78								
11 "			78	79					5			The American ship Leonidas arrived.
12 "			78	79								
1 P. M.			78	79				E. S. E.				
2 "			78	79								
3 "			77	79	75°	30·020	75° 60°		8		b. q.	
4 "			76	78					5		b. q.	
5 "			74	79								
6 "	Muthuata Harbour.		73	79				S. E.				
7 "			73	79					6			
8 "			73	79					9		b. q.	
9 "			72	78	70°	30·000			6			
10 "			72	78								
11 "			71	78								
12 "			71	78								
Mean.			74·92	78·54	73·5	30·013						

U. S. SHIP VINCENNES.

MUTHUATA HARBOUR, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 5.												
1 A. M.			72°	78°				East.	5	Clear.	b.	
2 "			72	78								
3 "			72	78	72°				4			
4 "			72	78								
5 "			72	78					2			
6 "			73	78								
7 "			73	79						Cir. stra.	c.	
8 "			75	79				Calm.	0			
9 "			75	79	73°	30·020	70° 57°			Stratus.		
10 "			75	79								
11 "			76	79								
12 "			76	79				N. W.	2		c. m.	
1 P. M.			76	79								
2 "			75	79								
3 "			78	77	78°	30·000	75° 61°			Cum.		
4 "			79	79				Calm.	0			
5 "			79	79								
6 "			77	79								
7 "			75	79						Clear.	b. m.	
8 "			75	79								
9 "			74	79	73°	30·000				Cir.cum	c.	
10 "			74	79								
11 "			74	79								
12 "			74	79								
Mean.			74·71	79·66	74	30·007						
Aug. 6.												
1 A. M.			74°	79°				Var.	1	Clear.	b.	
2 "			74	79				Calm.				
3 "			73	78	72°							
4 "			73	78						Stratus.	c.	
5 "			74	78								
6 "			74	78								
7 "			74	78								
8 "			74	78								
9 "			71	79	70°	30·070	Rain.	S. W.	3		r.	
10 "			73	79								
11 "			75	79							c.	
12 "			75	79								
1 P. M.			78	79				Calm.	0			
2 "			78	79								
3 "			80	79	78°	30·000	79° 67°					
4 "			79	79				Var.	1	Clear.	b.	
5 "			76	79								
6 "			76	79				S. W.	1			
7 "			75	79								
8 "			75	79								
9 "			74	79	73°	30·000		Var.				
10 "			74	78				S. E.	4	Cum.	c.	
11 "			74	78								
12 "			74	78								
Mean.			74·87	78·62	73·25	30·023						

U. S. SHIP VINCENNES.

MUTHUATA HARBOUR, FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 7.												
1 A. M.			70°	78°				South.	4	Cir.cum	c.	
2 "			70	78								
3 "			70	78	69°	30·010		S. W.				
4 "			70	78								
5 "			73	78					3			
6 "			73	78				W. S. W.				
7 "			74	78								
8 "			76	78								
9 "			77	78	76°	30·000	76° 66°	N.W.	4			
10 "			79	78					2			
11 "			80	79						Clear.	b.	
12 "			80	79								
1 P. M.			82	79					1			
2 "			80	79								
3 "			80	79	78°	30·000	78° 68°	S. E.				
4 "			79	79								
5 "			76	79				South.				The Porpoise arrived.
6 "			76	79						Cum. st.	c.	
7 "			76	78				S. E.	3			
8 "			75	78								
9 "			75	78	74°	30·050						
10 "			75	78					1			
11 "			75	78								
12 "			75	78					2			
Mean.			75·66	78·33	74·25	30·015						
Aug. 8.												
1 A. M.			75°	78°				S. E.	3	Cum.	b. c.	
2 "			75	78								
3 "			75	78	73°	30·020			1			
4 "			75	78								
5 "			75	78				Var.				
6 "			75	78								
7 "			75	78								
8 "			75	78				N. W.	2	Clear.	b.	
9 "			77	78	76°	30·000	76° 70°					
10 "			79	78								
11 "			79	78								
12 "			83	79								
1 P. M.			81	79						Cir.stra.	c.	
2 "			81	79								
3 "			79	79	78°	30·000	78° 70°					
4 "			79	79				Var.	1			
5 "			78	79								
6 "			77	79								
7 "			76	79				Calm.	0	Stratus.	c.	
8 "			75	79								
9 "			75	79		29·990						
10 "			75	79							c. m.	
11 "			74	78								
12 "			73	78								
Mean.			76·71	78·46	75·66	30·002						

Muthuata Harbour.

Muthuata Harbour.

U. S. SHIP VINCENNES.

FEEJEE GROUP.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 9.												
1 A. M.			73°	78°				Calm.	0	Cir. stra.	c. m.	
2 "			73	78								
3 "			73	78	73°	30·000						
4 "			73	78								
5 "			74	79								
6 "			74	79						Clear.	b.	
7 "			75	79				Var.	1			The whale-ship Triton sailed.
8 "			76	79								
9 "			80	79	79°	30·000	76° 70°					
10 "			81	79								
11 "			81	79						Cum.	b. c.	
12 "			81	79				N.W.	2			Got under way, the Peacock and Porpoise in company, steering to the eastward.
1 P. M.			81	79						Nimbus	c. u.	
2 "			81	79								
3 "			81	79	79°	29·960			3			
4 "			81	79					2		c. d.	
5 "			77	79							c.	The Flying-Fish joined.
6 "			76	79							c. d.	
7 "			76	79				E. S. E.	1			Anchored in 13 fathoms water.
8 "			76	79						Cir.cum	c.	
9 "			76	79	75°	29·990						
10 "			75	79								
11 "			75	79				Var.		Clear.	b.	
12 "			75	79								
Mean.			76·83	78·83	76·5	29·987						
Aug. 10.												
1 A. M.			74°	78°				N. E.	2	Clear.	b.	
2 "			74	78								
3 "			74	78	73°	29·860						
4 "			73	78								
5 "			72	78				East.		Cum.	b. c.	
6 "			75	78								
7 "			76	78								
8 "			78	78								
9 "			80	79	79°	29·980		Var.	1			
10 "			80	79								
11 "			81	79								
12 "			81	79				North.	3	Clear.	b.	
1 P. M.			79	79								Got under way heating to the N. E.
2 "			79	79								
3 "			79	79	77°	29·940		N. E.				
4 "			79	79					4			Anchored in 10 fathoms water, off Mali Island.
5 "			79	79								
6 "			78	79					3			
7 "			76	78						Overcast.	o.	
8 "			76	78								
9 "			75	78	74°	29·990						
10 "			75	78				Calm.	0			
11 "			74	78								
12 "			74	78								
Mean.			77·12	78·41	75·75	29·942						

Feejee Group. Off Mali Island.

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 11.												
1 A. M.			73°	78°				S. E.	1	Cir.cum	c. m.	
2 "			73	78								
3 "			73	78		30·050						
4 "			72	78								
5 "			74	78							c.	
6 "			74	78				Var.	1			
7 "			75	78						Clear.	b.	
8 "			76	78								
9 "			79	79		29·980		East.	2			
10 "			82	80								
11 "			82	79								
12 "			89	79					3			Got under way, squadron in company.
1 P. M.			82	79					4			
2 "			82	79				N. E.				Beating out of the Mali Passage.
3 "			81	79		29·910						
4 "			80	80								
5 "			79	80								Steering to the northward.
6 "			78	79				E. N. E.				
7 "			78	79								Lost sight of land.
8 "			77	79								
9 "			77	79	76°	29·990						The Porpoise and Flying-Fish parted company.
10 "			75	79						Cum. st.	c.	
11 "			75	79								
12 "			75	79								
Mean.			77·58	78·79	76	29·982						
Aug. 12.												
1 A. M.			76°	79°				East.	4	Stratus.	c.	Steering N. N. E.
2 "			76	79								
3 "			76	79	74°	29·980						
4 "			76	79								
5 "			75	79							c. u.	
6 "			75	79								
7 "			75	79							c.	
8 "			76	79								
9 "			79	80	78°	30·060	76° 72°			Cir. stra.		
10 "			79	80					3			
11 "			79	80								
12 "	14° 45′	179° 45′	80	80						Clear.	b.	
1 P. M.			82	79								
2 "			80	80								
3 "			79	80	79°	29·950			2			
4 "			79	79				E. by N.				
5 "			79	79								
6 "			78	79								
7 "			79	79					3			
8 "			78	79								
9 "			78	79		30·020						
10 "			78	79						Cum.	c.	
11 "			78	79								
12 "			78	79								
Mean.			77·83	79·25	77	30·002						

Feejee Group.

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 13.												
1 A. M.			79°	79°				E. S. E.	3	Cir.cum	b. c.	Steering to the northward and eastward.
2 "			79	79								
3 "			78	79	77°							
4 "			78	79						Cum. st.	c.	
5 "			78	79					2			
6 "			78	79				East.			c. p.	
7 "			78	79							c.	
8 "			78	79								
9 "			80	79		30·060	76° 72°	E. by S.				
10 "			80	79								
11 "			78	81								
12 "	13° 52′	179° 24′	78	80								
1 P. M.			76	80				S.E.by E.	4		c. p.	
2 "			76	80								
3 "			76	80	76°	29·940	Rain.		3			
4 "			77	80				E. S. E.			c.	
5 "			79	80							b. c.	
6 "			78	80					4	Cum.		Saw some tern flying around the ship.
7 "			78	80				East.				
8 "			78	80								A partial eclipse of the moon observed.
9 "			79	81	77°	29·960						
10 "			79	81				E. N. E.				
11 "			79	81								
12 "			79	81								
Mean.			78·16	79·79	76·66	29·987						
Aug. 13.												
1 A. M.			79°	81°				East.	3	Cum.	b. c.	Steering to the northward and eastward.
2 "			79	81								
3 "			79	81	76°	29·980		E. by N.				
4 "			79	81					2			Saw a brilliant meteor from the zenith, taking a course to the S. W.
5 "			79	81						Clear.	b.	
6 "			79	81								
7 "			80	82								
8 "			81	82				East.				
9 "			80	82	80°	30·020	80° 74°					
10 "			80	82					3			Insert a day in passing from east to west longitude.
11 "			81	82						Stratus.	c.	
12 "	11° 49′	178° 36′	81	82				E. S. E.				
1 P. M.			80	82					4			
2 "			80	82							c. p.	
3 "			78	81	78°	30·000	Rain.	East.			c.	
4 "			78	81								
5 "			79	81				E. N. E.			p.	
6 "			76	82							c.	
7 "			77	82				East.				
8 "			77	82						Cum. st.		
9 "			79	81	78°	30·020			3			
10 "			79	81				E. S. E.	4			
11 "			78	81								
12 "			78	81								
Mean.			79	81·46	78	30·005						

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 14.												
1 A. M.			79°	82°				S.E. by E.	4	Cum.	c.	Steering to the northward and eastward.
2 "			80	82								
3 "			80	82	73°							
4 "			81	82						Cum. st.		
5 "			81	82				E. S. E.				
6 "			81	82								
7 "			81	82				E. by S.	6		c. q. p.	
8 "			81	82					4		c.	
9 "			82	82	80°	30·020	81° 74°					
10 "			82	82					5			
11 "			82	82								Water dark blue.
12 "	9° 56′	177° 04′	82	82								
1 P. M.			82	83				East.				
2 "			81	83					6		q. p.	
3 "			79	83	77°	29·980	Rain.					
4 "			79	83				E. S. E.				
5 "			81	83					5		c.	
6 "			81	82				East.				
7 "			81	82					6		q.	
8 "			81	82					4			
9 "			81	82	81°	30·000						The Peacock parted company.
10 "			81	82				E. by N.				
11 "			81	82							p.	
12 "			81	82								
Mean.			80·87	82·21	77·75	30·000						
Aug. 15.												
1 A. M.			80°	82°				East.	5	Cum. st.	c. q. p.	Steering to the northward and eastward.
2 "			80	82								
3 "			80	82	78°		Rain.					
4 "			80	82							c.	
5 "			80	82					4			Saw a number of porpoises.
6 "			80	83								
7 "			80	83						Cum.	b. c.	
8 "			82	86				E. N. E.				
9 "			84	83	84°	30·030			3			
10 "			85	84								
11 "			86	84								
12 "	7° 25′	176° 22′	84	84								
1 P. M.			82	83				East.	2	Nimbus	c. p.	
2 "			82	83								
3 "			82	83	80°	29·950	Rain.					
4 "			82	83				S.E. by E.	1			
5 "			82	83							c.	
6 "			81	83								
7 "			80	83					4			
8 "			81	83					1			
9 "			84	83	83°	30·000		E. S. E.				
10 "			84	83				East.				
11 "			84	83					3			
12 "			82	83				E. by S.			p.	
Mean.			81·96	83·04	81·25	29·993						

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 16.												
1 A. M.			82°	82°				E. N. E.	4	Cir.cum	c.	Steering to the northward and eastward.
2 "			82	82								
3 "			84	82	81°	29·980						
4 "			84	82								
5 "			84	82								
6 "			83	84					5			
7 "			83	82								
8 "			83	82					4			Water deep blue.
9 "			83	84	83°	30·020	80° 76°			Clear.	b.	
10 "			83	84				E. by N.				Saw several birds,
11 "			83	84				East.				some flying-fish, and
12 "	5° 49′	175° 49′	83	84				E. by S.	3			a sperm whale.
1 P. M.			83	84				E. S. E.				Water slate colour.
2 "			84	84						Cir. stra.	c.	
3 "			84	84	83°	29·980			2			
4 "			82	84				E. N. E.				
5 "			81	83								Water deep blue.
6 "			81	83				N. by E.				
7 "			81	83								Steering to the southward and eastward.
8 "			81	83				N. E.				
9 "			81	83		30·000						
10 "			81	83								
11 "			81	83					3		c. l.	
12 "			81	83								
Mean.			82·41	83·08	82·33	29·995						
Aug. 17.												
1 A. M.			81°	83°				N. N. E.	2	Clear.	b. l.	Beating to the eastward.
2 "			81	83					1			
3 "			81	83	79°	29·990	80° 75°					
4 "			81	83								
5 "			81	83							b.	
6 "			81	83				N.E.byE.	2			
7 "			81	83								
8 "			83	83				E. N. E.				
9 "			84	84		30·040	82° 76°	N.E.byE.	3			Saw several gannets.
10 "			84	84				N. E.				
11 "			84	84								
12 "	5° 36′	175° 08′	84	84								Water blue.
1 P. M.			84	83					2			
2 "			85	83								
3 "			84	82	82°	29·980						
4 "			82	84				E. N. E.	3			
5 "			83	84								
6 "			81	83								
7 "			82	84					2			
8 "			82	83					3			
9 "			82	83		29·980						
10 "			81	83								
11 "			81	83								
12 "			81	83								
Mean.			82·25	83·33	80·5	29·996						

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 18.												
1 A. M.			80°	83°				E. N. E.	2	Clear.	b.	Steering to the south-eastward.
2 "			80	83								
3 "			81	82	80°	29·980	80° 75°	N.E.byE.				
4 "			81	83				N. E.				
5 "			81	83								
6 "			81	83								
7 "			82	83					1			
8 "			82	83					2			
9 "			82	83	85°	30·060	82° 76°	E. N. E.				Saw several tropical birds.
10 "			83	83								
11 "			83	83								
12 "	5° 58′	174° 40′	84	83								Steering to the northward.
1 P. M.			83	84								
2 "			82	84				E. by N.				
3 "			82	84	83°	29·980	73° 60°					
4 "			83	84								
5 "			82	84								
6 "			82	84								
7 "			82	84					3			Terns, gannets, and other tropical birds around the ship.
8 "			81	83				E. N. E.				
9 "			82	83	80°			N.E.byE.				
10 "			82	83								Water slightly phosphorescent.
11 "			82	83								
12 "			82	83								
Mean.			81·87	83·25	82	30·007						
Aug. 19.												
1 A. M.			82°	83°				N. E.	3	Clear.	b.	Steering to the northward.
2 "			82	83								
3 "			82	83	80°	30·000	80° 70°					
4 "			82	83								
5 "			82	83					1			Kemins' Island in sight to the northeastward.
6 "			82	83								
7 "			82	84					2			
8 "			82	84								Surveying the island.
9 "			80	84	84°	30·060	82° 74°					
10 "			83	84								
11 "			83	84						Cirrus.	b. c.	
12 "	4° 38′	174° 41′	84	84				S. E.	1			
1 P. M.			86	83				Calm.	0			
2 "			86	84				S. S. E..	1	Cir.cum		
3 "			87	84	86°	29·980						
4 "			84	84				S.E.by E.	3			
5 "			84	85								Lost sight of Kemins' Island to the southward.
6 "			82	85				East.				
7 "			82	84								
8 "			82	84								
9 "			82	84	80°					Clear.	b.	
10 "			82	84								Water phosphorescent occasionally.
11 "			82	83								
12 "			82	83								
Mean.			82·79	83·71	82·5	30·013						

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 20.												
1 A. M.			80°	83°				E. by S.	3	Clear.	b.	Steering to the northward and eastward.
2 "			80	83								
3 "			80	83	79°	30·000	82° 74°		2			
4 "			80	83					1			Large number of birds about the ship.
5 "			80	83								
6 "			80	83				East.				
7 "			82	83								
8 "			83	84				E. by S.				
9 "			86	84	85°	30·030	87° 64°		2			
10 "			85	85								Discovered M'Kean's Island, and sent the boats to survey it.
11 "			85	85								
12 "	3° 42′	174° 21′	85	85					1			
1 P. M.			80	85								
2 "			80	85				East.				
3 "			83	85	85°	29·950	84° 72°					
4 "			87	85								
5 "			83	85								
6 "			83	85						Cum.	c.	
7 "			83	84								
8 "			83	84								
9 "			81	84	81°	30·000		N. E.		Nimbus	c. u.	A brilliant meteor, starting 25° above the horizon, and pursuing a nearly horizontal course to the westward.
10 "			81	84				Calm.	0			
11 "			81	84				N.E.by N	1			
12 "			81	84								
Mean.			82·16	84·08	82·5	29·995						
Aug. 21.												
1 A. M.			80°	83°				Calm.	0	Nimbus	c.	Steering to the northward.
2 "			80	83				North.	1			
3 "			79	82	77°			N.E.byE.	3			
4 "			79	82				E. N. E.			c. d.	
5 "			78	82				East.			c.	Saw some porpoises.
6 "			78	82					1			
7 "			78	82							c. p. d.	
8 "			79	83				Calm.	0			
9 "			82	83	82°	30·020	80° 76°					
10 "			80	83								
11 "			79	83				S. W.	1		c. u. p.	
12 "	3° 11	174° 22′	81	83								
1 P. M.			83	84								
2 "			81	84				South.	2			
3 "			76	83	85°	30·000	Rain.				r.	
4 "			76	83							c. p.	
5 "			76	83					1		d.	
6 "			75	83				Calm.	0	Stratus.		
7 "			75	83				N. E.	1		c.	
8 "			75	83						Cir. stra.		
9 "			78	83		30·000						
10 "			78	83						Clear.	b.	Water phosphorescent.
11 "			78	82								
12 "			78	82								
Mean.			78·41	82·79	81·33	30·007						

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 22.												
1 A. M.			78°	82°				Calm.	0	Clear.	b.	Steering to the southward and eastward.
2 "			76	82				N. N. E.	1			
3 "			77	82	78°							
4 "			77	81				Calm.	0			Water blue.
5 "			77	82								
6 "			78	82								Frigate-birds about the ship.
7 "			79	83				N. E.	1			
8 "			81	83				N.E.by N				
9 "			86	83	84°	30·060	80° 76°	N. N. E.				
10 "			86	83					2			
11 "			86	83								
12 "	2° 47′	174° 14′	84	84								
1 P. M.			83	84				N.E.by N				
2 "			83	84								
3 "			83	84	82°	29·970	84° 75°					Bonitas seen and caught.
4 "			83	84					3			
5 "			83	84					2			
6 "			82	84								
7 "			81	83				N. E.				
8 "			81	83								
9 "			81	83	79°	30·000						
10 "			81	83				E. N. E.				
11 "			80	84								
12 "			80	84								
Mean.			81·08	83·08	80·75	30·010						
Aug. 23.												
1 A. M.			80°	83°				E. N. E.	2	Clear.	b.	Steering to the southward and eastward.
2 "			80	83								
3 "			80	83	78°	29·960	74° 70°	N. E.				Water slightly phosphorescent.
4 "			80	83								
5 "			80	83					1			
6 "			81	83								
7 "			82	83								Frigate-birds, and tern around the ship.
8 "			82	83								
9 "			83	84	82°	30·060	82° 72°	Calm.	0			
10 "			85	84								
11 "			86	84				N. N. E.	1			A long swell from the southward.
12 "	3° 28′	173° 43′	87	84								
1 P. M.			85	84								
2 "			85	84								Saw a number of black-fish and albicores.
3 "			85	84	86°	30·020						
4 "			85	84				North.				
5 "			85	85								
6 "			85	85								
7 "			83	84								
8 "			83	84								
9 "			83	84	79°	30·020						
10 "			83	84								
11 "			81	84								
12 "			81	84								
Mean.			82·91	83·75	81·25	30·015						

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FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 24.												
1 A. M.			80°	84°				North.	1	Clear.	b.	Steering to the northward and eastward.
2 "			80	84								
3 "			80	84	79°	29·960	78° 72°					
4 "			80	84						Nimbus	c. u.	
5 "			80	84								
6 "			81	84								
7 "			81	84								Tern and other tropical birds around the ship.
8 "			81	84							p.	
9 "			75	84	73°	30·060	Rain.	N. N. E.				
10 "			75	84				W. S. W.	3		q. p.	
11 "			77	83							c. p.	
12 "	3° 33′	172° 58′	77	84								Water dark blue.
1 P. M.			80	84				S. W.	4			
2 "			80	84					2	Cum. st.	c.	
3 "			82	84	*97°	29·950	85° 78°	S. by W.				*In the sun.
4 "			84	84								
5 "			85	84					1	Clear.	b.	
6 "			85	84						Cum.	b. c.	
7 "			80	84								
8 "			80	84				Calm.	0			
9 "			80	84	80°	30·020						
10 "			80	84				S. E.	1			
11 "			80	84						Clear.	b.	
12 "			80	84				Calm.	0			
Mean.			80·12	83·96	82·25	29·997						
Aug. 25.												
1 A. M.			81°	84°				Calm.	0	Clear.	b.	Steering to the southward and eastward.
2 "			81	84								
3 "			81	84	79°	29·920	78° 74°			Cir. cum	b. c.	
4 "			81	84								
5 "			80	84				E. N. E.	1			
6 "			80	84								
7 "			77	84								
8 "			78	84								
9 "			84	84		30·000	80° 76°					
10 "			84	84						Cum. st.	c. u.	
11 "			84	84								Many tropical birds seen.
12 "	3° 46′	172° 36′	84	84				N. E.				
1 P. M.			86	85						Nimbus		
2 "			87	85								
3 "			87	85	87°	29·930		North.				Water blue.
4 "			85	85					5		q. r.	
5 "			75	84				Var.	1		r.	
6 "			78	84							c.	
7 "			78	84				Calm.	0	Cum. st.		
8 "			78	84								
9 "			79	84	78°	30·000					c. l.	
10 "			79	84								
11 "			79	84								
12 "			79	84								
Mean.			81·04	84·16	81·33	29·987						

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 26.												
1 A. M.			79°	83°				Calm.	0	Cum.	c. l.	Steering to the southward and eastward.
2 "			79	83				N. E.	1		c. p.	
3 "			80	84	79°	29·930	Rain.					
4 "			80	84								
5 "			80	84					3		c.	
6 "			81	84						Clear.	b.	Hull's Island in sight to the southward.
7 "			82	84								
8 "			83	84								
9 "			85	84	84°	30·000	82° 75°		2			
10 "			85	84								
11 "			88	84								Surveyed Hull's Island.
12 "	4° 30′	172° 21′	87	84					1			
1 P. M.			84	85								
2 "			84	85								
3 "			84	85	85°	29·900						
4 "			85	85						Cum. st.	c. d.	
5 "			85	84								
6 "			85	84				Calm.	0			
7 "			84	84				S. E.	1	Nimbus	c.	
8 "			78	84				Var.	6		q. r.	
9 "			78	84	78°	29·960	Rain.	N.E.byN	2		c.	
10 "			79	83				E. N. E.				
11 "			79	83					7		q.	
12 "			79	83					1		c.	
Mean.			82·21	83·96	81·5	29·947						
Aug. 27.												
1 A. M.			77°	83°				East.	1	Nimbus	c. u. l.	Beating to the eastward.
2 "			78	83				Calm.	0			
3 "			79	83	77°	29·940					c.	Water slightly phosphorescent.
4 "			79	83				East.	1			
5 "			79	83					2		c. q.	
6 "			79	84								
7 "			80	84				E. N. E.				
8 "			80	84								
9 "			84	84	85°	30·000	82° 80°	E. by N.	3			Water light blue.
10 "			84	84				N.E.byE.				
11 "			85	84								
12 "	5° 02′	172° 18′	85	84								
1 P. M.			84	84						Cum.	b. c.	
2 "			84	84					2			
3 "			82	84	82°	29·900						Tropical birds seen.
4 "			82	84								
5 "			84	84				E. N. E.		Clear.		Hull's Island in sight.
6 "			84	84					3			
7 "			82	84				E. by N.	2			
8 "			82	84								
9 "			81	83	79°	30·000						
10 "			81	83								Water slightly phosphorescent.
11 "			81	83								
12 "			81	83								
Mean.			81·54	83·62	80·75	29·960						

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 28.												
1 A. M.			80°	83°				N.E.by E	3	Clear.	b.	Steering to the northward.
2 "			80	83								
3 "			80	83	78°	29·980	80° 76°					
4 "			80	83								
5 "			81	84				E. N. E.				Tern around the ship in great numbers.
6 "			81	84								
7 "			81	84					4			
8 "			83	84				East.	3			
9 "			83	84	82°	30·000	82° 76°					Hull's Island in sight.
10 "			83	84								
11 "			84	84								Steering to the northward and eastward.
12 "	4° 40′	172° 04′	84	84								
1 P. M.			83	84								
2 "			83	84								
3 "			82	84	84°	29·920	82° 78°					
4 "			82	84				E. by S.	4			
5 "			82	84					3			
6 "			81	84								
7 "			82	83								
8 "			82	83								
9 "			82	83	80°	30·000		E. S. E.				Saw a school of porpoises.
10 "			82	84								
11 "			81	84								
12 "			81	84								
Mean.			81·83	83·71	81	29·975						
Aug. 29.												
1 A. M.			82°	83°				S.E.by E.	3	Clear.	b.	Steering to the N. E.
2 "			81	83								
3 "			81	83		30·000	80° 74°					
4 "			81	83					4	Cum.	b. c.	
5 "			81	83								Birnie's Island in sight to the westward.
6 "			82	83								
7 "			82	83							c. p.	
8 "			82	83					5		b. c.	
9 "			83	83	80°	30·000	80° 76°					Enderbury's Island in sight to the northward.
10 "			84	83								
11 "			84	83				S. E.				
12 "	3° 08′	171° 10′	84	83					4			
1 P. M.			84	84						Clear.	b.	
2 "			84	84								Employed surveying.
3 "			83	84	82°	29·900						
4 "			83	84					5	Cir.cum	b. c.	
5 "			83	83								
6 "			83	83								
7 "			82	83								Lost sight of the Islands.
8 "			82	83					4			
9 "			82	83	80°	30·000						Hove to.
10 "			82	83								
11 "			82	83								
12 "			82	83								
Mean.			82·46	83·16	80·66	29·975						

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 30.												
1 A. M.			81°	83°				E. N. E.	4	Clear.	b.	Lying to with the main topsail aback.
2 "			80	83								
3 "			80	83	80°	30·000	81° 76°					
4 "			80	83								
5 "			80	83								
6 "			80	83				N.E.byE.				
7 "			82	83								
8 "			82	83								
9 "			83	83	83°	30·000	82° 76°					
10 "			83	83								
11 "			84	83								
12 "	3° 48′	171° 51′	84	83								Steering to the southward and eastward.
1 P. M.			83	83								
2 "			83	83				N. E.	5			
3 "			83	83	83°	29·920	86° 76°					
4 "			83	83						Cum. st.	c.	
5 "			83	83								
6 "			83	83								
7 "			82	83								
8 "			82	83								
9 "			82	83	81°	30·000			3			Steering N. N. W.
10 "			82	83								
11 "			82	83							q. p.	Great number of birds about the ship.
12 "			82	83							c.	
Mean.			82·04	83	82·25	29·980						
Aug. 31.												
1 A. M.			80°	83°				N. Ed.	3	Cum. st.	c.	Steering to the northward and westward.
2 "			80	83					2			
3 "			80	83	79°	29·960	80° 76°					
4 "			80	83								
5 "			80	83						Cum.	b. c.	
6 "			80	83								
7 "			80	83					3			
8 "			81	83					4			
9 "			83	83		30·040	82° 78°					Steering to the southward and eastward.
10 "			83	83								
11 "			84	83					3			
12 "	4° 45′	171° 45′	84	83								
1 P. M.			84	84						Clear.	b.	
2 "			84	84								
3 "			84	84	85°	29·980	83° 73°					
4 "			84	84								Water blue.
5 "			84	84					4			
6 "			84	84								
7 "			83	84					3			Many tropical birds about.
8 "			83	84								
9 "			83	84	81°	30·000						
10 "			83	84								
11 "			83	84								
12 "			83	84								
Mean.			82·37	83·5	81·66	29·997						

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 1.												
1 A. M.			81°	83°				N. E.	3	Cum.	b. c. l.	Steering to the southward and eastward.
2 "			81	83						Nimbus	c. u. l.	
3 "			81	83	80°	30·000	Rain.		6		q. p. l.	
4 "			81	83					3		c. l.	
5 "			80	83								
6 "			80	83								
7 "			80	83						Cum. st.	c.	
8 "			80	83				N.E.by N				
9 "			81	83	81°	30·100	80° 76°					
10 "			82	83								
11 "			84	84						Clear.	b.	
12 "	5° 47′	171° 35′	84	84				N. N. E.	1			Tropical birds seen.
1 P. M.			84	84								
2 "			84	84				N.E.by N				
3 "			84	84	82°	30·000	87° 80°					
4 "			84	84								
5 "			86	84								Canght a small species of snipe.
6 "			82	84				Calm.	0			
7 "			82	84								
8 "			82	84				East.	1			Steering to the northward and eastward.
9 "			81	84	79°	30·040			2		b. l.	
10 "			81	84								
11 "			81	84								
12 "			81	83								
Mean.			81·96	83·54	80·5	30·035						
Sept. 2.												
1 A. M.			81°	83°				E. by S.	3	Clear.	b. l.	Steering to the northward and eastward.
2 "			81	83								
3 "			81	83	79°	30·050	81° 77°					
4 "			81	83								
5 "			80	84							b.	
6 "			82	84					4			
7 "			83	84				East.				
8 "			83	84								
9 "			83	84	82°	30·060	83° 78°					
10 "			84	84				E. N. E.		Cum.	b. c.	
11 "			84	84				E. by S.	5			
12 "	4° 44′	169° 47′	85	84							b. c. q.	
1 P. M.			84	86								
2 "			84	84								
3 "			84	84	83°	29·970	84° 74°	East.				
4 "			84	84						Cum. st.		
5 "			84	84								
6 "			84	84								
7 "			83	82								Water blue.
8 "			83	82								
9 "			82	83	80°	29·970						
10 "			81	83							q. p. d.	
11 "			80	83								
12 "			80	83								
Mean.			82·54	83·58	81	30·012						

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Diree.	Force.	Clouds.	Weather.	Remarks.
Sept. 3.												
1 A. M.			82°	83°				E. by S.	5	Clear.	b.	Steering to the northward and eastward.
2 "			81	83					7			
3 "			81	83	80°	29·950						
4 "			81	83								
5 "			82	83						Cum.	c. q.	
6 "			82	83					6			
7 "			82	83								
8 "			82	83							c.	Black-fish about the ship.
9 "			83	83	84°	30·020	82° 78°					
10 "			84	82						Clear.	b.	
11 "			84	82								
12 "	1° 51′	168° 23′	83	83				East.	5			
1 P. M.			83	84								
2 "			83	82								
3 "			83	82	82°	29·900	83° 78°					
4 "			83	82					4			
5 "			82	82				E. by N.				
6 "			82	82								
7 "			82	82								
8 "			82	82					5	Cir.cum	b. c.	
9 "			82	82	80°	29·980						
10 "			81	82								
11 "			81	82								
12 "			81	82								
Mean.			82·16	82·5	81·5	29·962						
Sept. 4.												
1 A. M.			81°	82°				E. N. E.	5	Cir.cum	b. c.	Steering to the northward.
2 "			81	82								
3 "			81	82	78°	29·960						
4 "			81	82								
5 "			81	82								
6 "			81	82					4			
7 "			81	82								Water slate colour.
8 "			82	82								
9 "			83	82	82°	30·000	82° 78°			Clear.	b.	
10 "			83	82					5			
11 "			84	82					4			
12 "	N.		83	82								
1 P. M.	0° 54′	167° 44′	82	82								
2 "			82	82				N. E.				
3 "			82	82	81°	29·920		E. N. E.				Tern and plovers caught.
4 "			82	82								
5 "			82	82								
6 "			82	82								
7 "			81	82					5			
8 "			81	82					4			
9 "			81	82	79°	29·900	84° 74°					
10 "			81	82				E. by N.				
11 "			81	82								
12 "			81	82								
Mean.			81·66	82	80	29·942						

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 5.												
1 A. M.			81°	82°				E. by N.	4	Clear.	b.	Steering to the northward.
2 "			81	82				East.				
3 "			81	82	82°	29·920	80° 76°					
4 "			81	82								
5 "			80	82								
6 "			80	82				E. N. E.				Water deep blue.
7 "			82	82								
8 "			82	82								
9 "			83	82	81°	30·000	82° 78°			Cum.	b. c.	
10 "			83	82				S. E.				Gannets, boobies, snipe, and flying-fish about the ship.
11 "			84	82								
12 "	3° 13′	167° 26	83	82								
1 P. M.			83	83								
2 "			83	83								
3 "			82	83	83°	29·920		E. S. E.				
4 "			82	83								
5 "			83	83								
6 "			81	83				S.E. by E.	3			
7 "			81	82								
8 "			81	82						Clear.	b. l.	
9 "			81	82	79°	29·900	84° 74°		4			
10 "			80	82					2			
11 "			80	82								
12 "			80	82								
Mean.			81·58	82·25	81·25	29·935						
Sept. 6.												
1 A. M.			80°	81°				S. E.	3	Clear.	b. l.	Course N. E. by E.
2 "			80	81								
3 "			80	81	78°	29·900	80° 78°					
4 "			80	82								
5 "			80	83								
6 "			80	83								
7 "			80	83						Cum.	b. c.	Course E. N. E.
8 "			82	83								
9 "			83	83	83°	29·980	81° 78°					
10 "			83	83								
11 "			83	83					5		b. c. q.	
12 "	4° 40′	165° 53′							3		b. c.	
1 P. M.			80	82						Cum. st.	c.	Steering to the northward and eastward.
2 "			83	82				East.				
3 "			83	82	81°	29·900	82° 80°					
4 "			82	82								
5 "			81	82				E. by N.				
6 "			81	82								
7 "			80	82				East.	4			
8 "			80	82								
9 "			80	82	78°			E. by S.	3	Nimbus		
10 "			80	82								
11 "			80	82							c. p. d.	
12 "			80	82							c. u.	
Mean.			80·91	82·17	80	29·927						

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 7.												
1 A. M.			78°	81°				S. E.	3	Nimbus	c. p. l.	Steering to the northward and eastward.
2 "			75	80								
3 "			73	80	71°	29·920	Rain.					
4 "			73	80								
5 "			74	82							c. p.	Water slightly phosphorescent.
6 "			77	83								
7 "			80	83								
8 "			80	83							c. u.	
9 "			81	83	79°	29·980			4	Stratus.		
10 "			81	83					5			
11 "			81	83						Over-	o.	Porpoises, gannets, and boobies seen.
12 "	6° 12′	164° 05′	82	83						cast.	c. p.	
1 P. M.			81	83								
2 "			83	83						Nimbus	c.	
3 "			84	83		29·880	82° 74°		3			
4 "			84	83							c. p. d.	
5 "			76	83								
6 "			76	79					2			
7 "			77	80								
8 "			75	82					4			
9 "			77	82	75°	30·000	Rain.		1			
10 "			76	82				Calm.	0			
11 "			76	82								
12 "			76	82				S. E.	5		c. l.	
Mean.			78·16	82	75	29·945						
Sept. 8.												
1 A. M.			75°	82°				S. E.	4	Nimbus	c. l. r.	Steering to the northward and eastward.
2 "			76	82				Calm.	0		c. l.	
3 "			77	82	75°	29·950		E^{d}.	1			
4 "			77	82								
5 "			77	82				Calm.	0	Cum. st.	c.	
6 "			78	82				E. N. E.	3			
7 "			78	83				Calm.	0			
8 "			78	84				S. E.	1			
9 "			79	84	78°	30·000	78° 76°					
10 "			80	84								Water blue.
11 "			82	84								
12 "	6° 48′	163° 00′	82	84								
1 P. M.			85	85								
2 "			85	85				N. E.				
3 "			81	84	79°	29·900	Rain.		5		c. q. r.	Saw some gannets.
4 "			81	84					3			
5 "			80	83					1		c.	
6 "			80	83								
7 "			80	83						Over-	o.	
8 "			80	83					2	cast.		
9 "			80	82	78°	29·980		Var.	1			
10 "			80	82				E^{d}.				
11 "			80	82					2			
12 "			80	82					1			
Mean.			79·62	83·04	77·5	29·957						

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 9.												
1 A. M.			79°	83°				E^{d}.	1	Nimbus	c.	Steering to the northward and eastward.
2 "			78	83								
3 "			79	83	78°	29·920					c. u.	
4 "			79	83					3			
5 "			78	83								
6 "			77	83					2			
7 "			78	83							c. r.	
8 "			78	83								
9 "			79	83	82°	30·020	Rain.		1			
10 "			78	83								
11 "			78	83								
12 "	7° 11′	162° 35′	80	84				S. W^{d}.			c.	Course N. E. by E.
1 P. M.			80	84						Cum.		
2 "			80	84								
3 "			82	84	82°	29·900	82° 72°		2	Cir. stra.		
4 "			82	84					1			Water deep blue.
5 "			82	84								
6 "			82	84								
7 "			80	84								
8 "			80	84								
9 "			80	84	78°	30·000				Over-cast.	o.	
10 "			79	84								
11 "			79	84				Calm.	0			
12 "			79	84				S. W.	1			
Mean.			79·25	83·54	80	29·960						
Sept. 10.												
1 A. M.			80°	83°						Over-cast.	o. p.	Course N. E. ¼ N.
2 "			77	83								
3 "			74	83	72°	29·960	Rain.	S.W.	1			
4 "			74	83				E. by S.	5			
5 "			74	83					3	Cum. st.	c.	
6 "			74	83					2			
7 "			75	83				S. E^{d}.	4			
8 "			76	83								Water deep blue.
9 "			82	83	82°	30·030	79° 77°			Cir. stra.		
10 "			83	83								
11 "			83	83								
12 "	8° 00′	161° 10′	83	83						Clear.	b.	Steering to the northward.
1 P. M.			82	83								
2 "			82	83				E. N. E.	3			Entered the northeast trades.
3 "			81	83	80°			E. by N.	2	Cum.	b. c.	
4 "			80	83								
5 "			81	83								
6 "			80	83				E. N. E.	3			
7 "			81	83						Over-cast.	o.	
8 "			81	83								
9 "			80	83	78°	30·000			4			
10 "			80	83								
11 "			81	83				N.E.by E.		Clear.	b.	
12 "			81	83								
Mean.			79·37	83	78	29·996						

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 11.												
1 A. M.			81°	82°				E. N. E.	4	Cum. st.	c. q. d.	Steering to the northward.
2 "			80	81					5			
3 "			78	81	76°	30·000	Rain.		4			
4 "			78	82								
5 "			79	82						Cum.	b. c.	
6 "			80	82								
7 "			80	82				N. E.				
8 "			81	82								
9 "			82	83	82°	30·020	79° 77°					
10 "			84	83						Clear.	b.	
11 "			83	83				E. N. E.	5			
12 "	10° 00′	161° 13′	83	83								
1 P. M.			83	83								Water light blue.
2 "			83	83						Cir.cum	b. c.	
3 "			82	83	82°	29·940	82° 78°					
4 "			82	83				E. by N.	4			
5 "			82	83								
6 "			82	83								
7 "			81	82						Clear.	b.	
8 "			82	82								
9 "			81	83	80°	30·000						
10 "			81	83						Cum.	b. c.	
11 "			81	83								
12 "			81	83								
Mean.			81·25	82·5	80	29·990						
Sept. 12.												
1 A. M.			80°	83°				E. N. E.	4	Cum.	b. c.	Steering to the northward.
2 "			80	83								
3 "			80	82·5	78°	30·000	79° 72°					
4 "			80	82·5								
5 "			80	83						Clear.	b.	
6 "			80	83								
7 "			82	84								
8 "			83	84								
9 "			83	83	85°	30·030	80° 78°					
10 "			83	83				E. by N.	3			
11 "			83	83					4			Water light blue.
12 "	12° 12′	161° 02′	84	83				E. N. E.				
1 P. M.			83	83						Cum.	c.	
2 "			82	83								
3 "			83	83	83°	29·950	83° 76°	N.E.byE.				
4 "			83	83								
5 "			82	83								
6 "			81	83						Clear.	b.	
7 "			81	82								
8 "			81	82								
9 "			81	82	79°	30·000				Cum.		
10 "			81	82								
11 "			81	82							b. c.	
12 "			81	81								
Mean.			81·58	82·75	81·25	29·995						

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS.			Barom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
			Air.	Water.	Mast-head.			Direc.	Force.			
Sept. 13.												
1 A. M.			80°	83°				N.E.byE.	4	Clear.	b. w.	Steering to the northward.
2 "			80	83					5			
3 "			80	83	78°	30·000	79° 78°					
4 "			80	83					4		b.	
5 "			80	83								
6 "			80	83						Cir.cum	b. c.	
7 "			81	83				E. N. E.				
8 "			81	83					5			Water blue.
9 "			82	83	81°	30·020	80° 76°		4			
10 "			82	83				E. by N.		Cum. st.	c.	
11 "			83	83								
12 "	13° 58′	161° 22′	84	83				E. N. E.		Nimbus	c. u.	
1 P. M.			80	82					5		c. q. p.	
2 "			82	82					4			
3 "			82	82	81°	29·950	82° 74°	N.E.byE.	3			Porpoises seen.
4 "			82	82								
5 "			80	82					6			
6 "			79	82					3			Water slate colour.
7 "			79	82					5			
8 "			79	82					4			
9 "			79	82	78°	30·030						
10 "			79	82								
11 "			80	82					5			
12 "			80	82					4			
Mean.			80·58	82·5	79·5	30·000						
Sept. 14.												
1 A. M.			79°	81°				N.E.byE.	4	Cum. st.	c. q. p.	Working to the eastward.
2 "			79	81					5			
3 "			79	81	77°	30·000	79° 78°		4			
4 "			79	81				N. E.				
5 "			79	81				N.E.byE.				
6 "			79	81					5	Clear.	b. q.	Water blue.
7 "			79	81								
8 "			79	81						Cum. st.	b. c.	
9 "			79	81	80°	30·020	80° 76°					
10 "			81	81				E. N. E.				
11 "			81	80								
12 "	15° 56′	161° 27′	81	80								
1 P. M.			82	81								
2 "			82	81				N.E.byE.				
3 "			82	81		29·950	83° 75°					
4 "			81	81								
5 "			76	80						Cum. st.	c. q. p.	
6 "			79	80								
7 "			79	80						Nimbus	r.	
8 "			76	80				E. N. E.			p.	
9 "			76	80	74°	30·050						Water slightly phosphoresecent.
10 "			76	80								
11 "			76	80				N.E.byE.				
12 "			76	80								
Mean.			78·96	80·58	77	30·007						

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Diree.	Force.	Clouds.	Weather.	Remarks.
Sept. 15.												
1 A. M.			75°	79°				E. N. E.	4	Cum. st.	c.	Steering to the northward.
2 "			76	79				E. by N.	5	Nimbus	c. q.	
3 "			77	79	76°			E. N. E.	3		c.	
4 "			77	79								
5 "			74	80							r.	
6 "			75	80				N.E.byE.			c.	
7 "			77	80								
8 "			79	80								
9 "			80	80	81°	30·040	78° 77°		4			
10 "			80	80				E. N. E.		Clear.	b.	
11 "			81	80								
12 "	17° 39′	161° 35′	81	80								
1 P. M.			81	81								
2 "			81	81								
3 "			81	81	80°	30·000	80° 74°					
4 "			81	81					5	Cum. st.	c. p.	Water deep blue.
5 "			79	81				N.E.byE.				
6 "			79	80								
7 "			79	80							b. c.	
8 "			79	80								
9 "			79	80	77°	30·050						
10 "			79	80								
11 "			78	80								
12 "			78	80								
Mean.			78·58	80·04	78·5	30·030						
Sept. 16.												
1 A. M.			79°	79°				E. N. E.	4	Cir.cum	b. c.	Steering to the northward.
2 "			78	79								
3 "			78	79	77°	30·060	79° 74°					
4 "			78	79					3			
5 "			78	79					2			
6 "			78	80					3			
7 "			79	80				N.E.byE.				
8 "			80	81								
9 "			81	81		30·100	80° 76°		4	Cirrus.		
10 "			81	81								
11 "			81	81								
12 "	19° 52′	161° 30′	81	81								
1 P. M.			81	80						Clear.	b.	Water deep blue.
2 "			80	80				E. N. E.				
3 "			80	80	77°	30·000	80° 70°					Gannets, petrels, and tern seen.
4 "			80	80								
5 "			80	80								Water dark green.
6 "			80	80								
7 "			79	80						Cir.cum	b. c.	
8 "			79	80					3			
9 "			79	80	76°							
10 "			78	80								
11 "			78	80								
12 "			78	80								
Mean.			79·33	80	76·66	30·053						

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 17.												
1 A. M.			78°	80°				E. N. E.	4	Clear.	b.	Steering to the northward.
2 "			78	80								
3 "			78	80		30·160	78° 74°		3			
4 "			78	80								
5 "			78	80								
6 "			78	80				N.E.byE.	2	Cir.cum	b. c.	
7 "			79	80								Tropical birds about the ship.
8 "			80	79					3			
9 "			80	79		30·140	80° 70°					
10 "			79	79								
11 "			79	79				N. E.				Steering to the southward and eastward.
12 "	21° 34′	161° 31′	79	79								
1 P. M.			80	80						Clear.	b.	
2 "			79	80								
3 "			80	80	78°	30·050	82° 76°					
4 "			80	80								
5 "			80	80								Water blue.
6 "			79	80								
7 "			78	79								
8 "			78	79						Cir.cum	b. c.	
9 "			79	79	78°	30·120						
10 "			79	79					4			
11 "			79	79								
12 "			79	79								
Mean.			78·92	79·54	78	30·117						
Sept. 18.												
1 A. M.			79°	80°				E. N. E.	4	Cir.cum	b. c. l.	Steering to the southward and eastward.
2 "			79	80								
3 "			79	80	77°	30·000	79° 74°	N.E.byE.				
4 "			79	80								
5 "			79	80							b. c.	
6 "			79	80								
7 "			79	80								
8 "			79	80								
9 "			80	80		30·020	78° 76°					
10 "			80	80					3	Nimbus		
11 "			81	80				E. N. E.			c. u.	
12 "	20° 12′	160° 25′	81	80								
1 P. M.			81	80				East.				Steering to the northward.
2 "			80	80				E. by N.				
3 "			79	80	80°	30·050	82° 74°		4		c.	
4 "			79	80								
5 "			79	80				N.E.byE.				
6 "			79	80								
7 "			79	80								
8 "			78	80								
9 "			78	80	77°	30·100					c. l.	Steering to the southward and eastward.
10 "			78	80								
11 "			78	80							c. p.	Water phosphorescent.
12 "			78	80							c.	
Mean.			79·16	80	78	30·042						

U. S. SHIP VINCENNES.

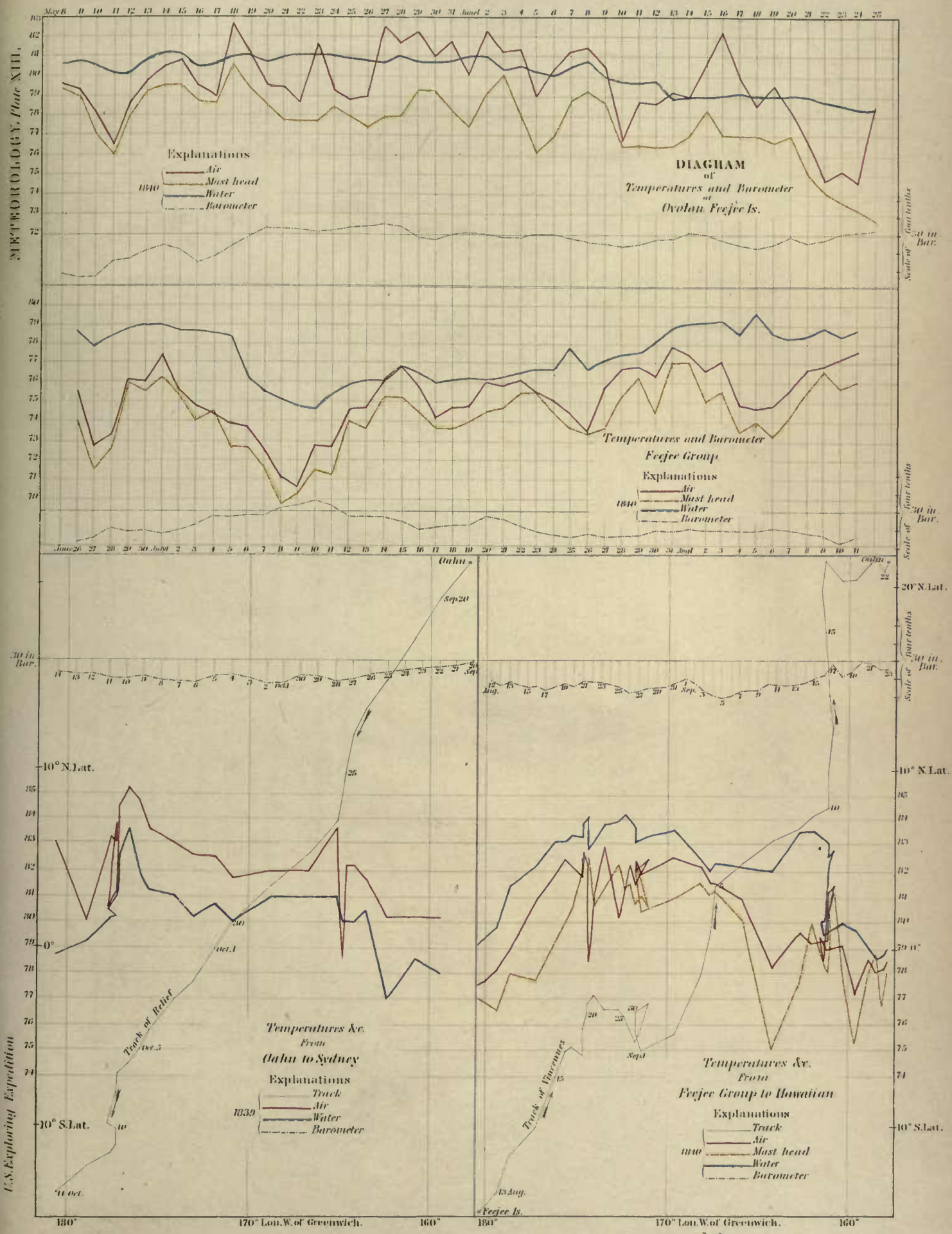
FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 19.												
1 A. M.			75°	80°				N.E.	3	Nimbus	c. p.	Steering to the southward and eastward.
2 "			75	80				N.E.by N				
3 "			76	80	75°	30·000	Rain.	E. N. E.				
4 "			76	80							q. p.	
5 "			78	80								
6 "			79	80								
7 "			78	80							c.	
8 "			78	80				East.	4			
9 "			78	80	76°	30·080						Water deep blue.
10 "			79	80				E. by N.				
11 "			78	80				E. N. E.	3		c. d.	Steering to the northward.
12 "	20° 21′	159° 39′	80	80							c.	
1 P. M.			75	80								
2 "			76	80							c. p.	
3 "			76	80	74°	30·100	Rain.		2			
4 "			77	80				East.	3			
5 "			78	80								Water slate colour.
6 "			77	80						Overcast.	o. l.	
7 "			77	80								
8 "			77	80								
9 "			77	79	76°	30·100						
10 "			77	79								
11 "			77	79								
12 "			77	79						Cir. st.	c. l.	
Mean.			77·12	79·83	75·25	30·070						
Sept. 20.												
1 A. M.			78°	79°				E. N. E.	3	Cir. st.	b. c. l.	Beating to the eastward.
2 "			78	79								
3 "			78	79	76°	30·100	76° 70°					
4 "			78	79								
5 "			78	79				N. E.				
6 "			78	79							b. c.	Kanai and Niihau in sight to the eastward.
7 "			79	79								
8 "			79	79					2			Water deep blue.
9 "			79	79	79°	30·180	78° 70°	N.E.byE.				
10 "			80	79						Clear.	b.	
11 "			80	79								
12 "	21° 13′	158° 54′	80	79								
1 P. M.			80	79				E. N. E.	1			
2 "			80	79					2			
3 "			80	79	82°	30·090	80° 71°			Cum.	b. c.	
4 "			80	79								
5 "			79	79					1			
6 "			77	79					2			
7 "			77	79								
8 "			77	79								
9 "			77	79	75°	30·160						
10 "			77	79					3	Clear.	b.	Water phosphorescent.
11 "			78	79					2			
12 "			78	79								
Mean.			78·54	79	78	30·132						

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 21.												
1 A. M.			77°	77°				E. N. E.	2	Clear.	b.	Beating to the northward and eastward.
2 "			77	78								
3 "			76	78	75°	30·100	76° 70°	N.E.byE.				
4 "			76	78								
5 "			76	78								
6 "			77	79					3			Kauai in sight to the northward.
7 "			77	79								
8 "			79	79								
9 "			80	79	84°	30·180	78° 70°					
10 "			78	79				E. N. E.				
11 "			77	79								Water deep blue.
12 "	21° 12′	158° 42′	78	79				N. E.	2			
1 P. M.			80	80					1			Sperm whales seen.
2 "			80	80								
3 "			80	79	80°	30·090	79° 72°			Cir.cum	b. c.	
4 "			80	79					2			
5 "			79	79				E. N. E.				Oahu in sight to the N. E.
6 "			79	79								
7 "			79	79				N. E.				
8 "			78	78					3			
9 "			78	78	76°	30·100		N.E.byE.				
10 "			77	78					4		b. c. l.	
11 "			77	78								
12 "			77	78								
Mean.			78	78·63	78·75	30·117						
Sept. 22.												
1 A. M.			77°	77°				N.E.byE.	5	Clear.	b. l.	Beating to the northward and eastward.
2 "			77	77					6			
3 "			77	79	75°	30·050		E. N. E.				
4 "			77	79								
5 "			77	79							b.	
6 "			77	79								
7 "			78	78					5			Oahu in sight to the northeast.
8 "			79	79				N.E.byE.				
9 "			79	79	78°	30·100	78° 74°		4			
10 "			78	79								
11 "			80	79						Cirrus.	b. c.	
12 "	20° 46′	158° 19′	80	79								
1 P. M.			80	80								
2 "			80	80				E. N. E.		Clear.	b.	
3 "			79	79	79°	30·050	80° 70°					
4 "			79	79					5			Water deep blue.
5 "			79	79								
6 "			79	79								
7 "			78	79								
8 "			78	79								
9 "			77	78	75°	30·100						
10 "			77	78					4			
11 "			77	78				E. by N.				
12 "			77	78								
Mean.			78·16	78·71	76·75	30·075						



U.S. Exploring Expedition

UNIVERSITY OF MINNESOTA

U. S. SHIP VINCENNES.

FROM FEEJEE GROUP TO SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 23.												
1 A. M.			78°	79°				East.	2	Clear.	b.	Beating up for the harbour of Honolulu.
2 "			77	79								
3 "			77	79	79°	30·050	78° 70°	E. N. E.				
4 "			77	79					4			
5 "			77	79				N.E.byE.				
6 "			77	79								
7 "			78	79				E. N. E.				
8 "			78	79								
9 "			80	79	78°	30·090	78° 68°	N. E.	4			
10 "			79	79								
11 "			81	79				E. N. E.				Oahu in sight.
12 "	21° 23′	158° 06′	81	79				E. by N.	3			
1 P. M.			80	79				E. N. E.	1			
2 "			80	79					4			
3 "			80	79	79°	30·050	80° 72°					
4 "			80	79								
5 "			79	79								
6 "			79	79								
7 "			79	79					5	Cum. st.	b. c.	
8 "			79	79					6			
9 "			78	79	76°	30·100						
10 "			77	79								
11 "			77	79								
12 "			74	79					4		b.	
								E. by N.		Cir.cum	b. c.	
Mean.			78·37	79	78	30·072						
Sept. 24.												
1 A. M.			77°	78°				E. N. E.	4	Cir.cum	b. c.	
2 "			77	78								
3 "			77	78	75°	30·020	77° 70°					
4 "			77	78				N.E.byE.				
5 "			77	78						Cum. st.	c.	
6 "			77	78					3			
7 "			77	78								
8 "			77	78								
9 "			79	79	78°	30·080	79° 72°			Nimbus	c. u.	Anchored in thirteen fathoms water, in Honolulu Roads.
10 "			80	79				N. E^{d}.	4		c. r.	
11 "			81	79					7		c. q.	
12 "			81	79					5		c.	
1 P. M.			80	79					6		c. q. p.	
2 "			79	79								
3 "			79	79		30·030	80° 70°		5		b. c.	
4 "			79	79								
5 "			79	79								
6 "			79	79					6			
7 "			79	79								
8 "			79	79								
9 "			77	79	76°	30·100		E^{d}.	4	Clear.	b.	
10 "			77	79								
11 "			77	79								
12 "			77	79					3			
Mean.			78·25	78·66	76·33	30·057						

U. S. SHIP VINCENNES.

HONOLULU, SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 25.												
1 A. M.			78°	79°				East.	3	Clear.	b.	
2 "			76	79								
3 "			76	79	73°	30·050	74° 66°					
4 "			76	79								
5 "			76	79								
6 "			76	79				E. N. E.		Cir.cum	b. c.	
7 "			74	79								Got under way, warped into the harbour, and secured the ship to the wharf.
8 "			74	79								
9 "			76	79	78°	30·100	79° 70°					
10 "			76	78								
11 "			80	78								
12 "			84	78				N. E.	4			
1 P. M.			82	78								
2 "			82	78						Nimbus	c. u.	
3 "			82	78	82°							
4 "			82	78								
5 "			80	78				E. N. E.	5			
6 "			75	78					7		c. q. p.	
7 "			75	78					5			
8 "			75	78								
9 "			75	78	74°				6			
10 "			75	78							c. q. d.	
11 "			74	78					8			
12 "			74	78					5			
Mean.			77·21	78·37	76·75	30·075						
Sept. 26.												
1 A. M.			77°	78°				N. E^{d}.	5	Nimbus	c. q. p.	
2 "			77	78							c. q.	
3 "			77	78		30·050	Rain.					
4 "			77	78					4		c. q. p. d	Rain ·3 in.
5 "			76	78								
6 "			76	78						Cir. stra.	c.	
7 "			77	78						Cir.cum	b. c.	
8 "			78	78								
9 "			78	78		30·100	79° 70°					
10 "			79	78								Sending the Observatory, &c., on shore.
11 "			79	78					5			
12 "			80	78								
1 P. M.			81	79								
2 "			82	79					4			
3 "			82	78		30·050	80° 62°			Clear.	b.	
4 "			81	79								
5 "			80	78						Cum.	b. c.	
6 "			78	78					5			
7 "			78	78								
8 "			79	78								
9 "			78	78		30·050						
10 "			78	78								
11 "			78	78								
12 "			77	78					3			
Mean.			78·46	78·12		30·062						

Honolulu Harbour.

Honolulu Harbour.

U. S. SHIP VINCENNES.

HONOLULU, SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 27.												
1 A. M.			77°	78°				E. N. E.	1	Stratus.	c.	
2 "			77	78								
3 "			77	78	75°	30·030				Nimbus	c. u.	
4 "			77	78								
5 "			76	78							c. r.	
6 "			76	78								
7 "			76	78								
8 "			76	78					2		c. p.	
9 "			76	78	79°	30·080	Rain.	N. E.				
10 "			76	78								
11 "			78	78							c. p. d.	
12 "			78	78								
1 P. M.			82	79								
2 "			82	79								
3 "			81	78	75°	30·020	75° 73°					
4 "			79	78				E. N. E.	3		c.	
5 "			79	78								
6 "			78	78					1		c. p.	
7 "			76	78								
8 "			74	78								
9 "			72	78	76°	30·080	Rain.				c. r.	
10 "			74	78					2		c. p.	
11 "			74	78								
12 "			73	78					1			Rain ·2 in.
Mean.			76·83	78·08	76·25	30·052						
Sept. 28.												
1 A. M.			73°	78°				N. E^{d}.	1	Nimbus	d.	
2 "			73	78								
3 "			74	78	72°	30·050				Cum. st.	c.	
4 "			74	78					3			
5 "			74	78								
6 "			74	78								
7 "			75	78						Clear.	b. c.	
8 "			78	78								
9 "			79	78	80°	30·080		E^{d}.	4			
10 "			81	78				E. N. E.			b.	
11 "			82	78								
12 "			82	78								
1 P. M.			82	77								
2 "			82	77					5			
3 "			82	77	81°	30·010				Cir.cum	b. c.	
4 "			81	78								
5 "			80	78					4			
6 "			79	78								
7 "			79	78								
8 "			78	79								
9 "			78	79	77°	30·070			3			
10 "			77	79								
11 "			77	79								
12 "			77	79					2			
Mean.			77·96	78·08	77·5	30·052						

Honolulu Harbour.

Honolulu Harbour.

U. S. SHIP VINCENNES.

HONOLULU, SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Sept. 29.												
1 A. M.			76°	78°				N. Ed.	2	Cum.	b. c.	
2 "			76	78								
3 "			78	78	74°	30·020		E. N. E.		Cir.cum		
4 "			75	78					1			
5 "			76	78								
6 "			74	78								
7 "			75	78								
8 "			75	78				East.	3			
9 "			76	78		30·080						
10 "			80	78								
11 "			80	78								Overhauling the ship.
12 "			80	78								
1 P. M.			81	78								
2 "			81	78						Over-	o.	
3 "			80	78	78°	30·020		N.E.byE.	4	cast.		
4 "			80	78								
5 "			79	78								
6 "			79	78					3			
7 "			79	78								
8 "			78	78								
9 "			78	78		30·060						
10 "			77	78					1			
11 "			77	78								
12 "			77	78							o. m.	
Mean.			77·79	78	76	30·045						
Sept. 30.												
1 A. M.			76°	78°				N. Ed.	1	Over-	m. t. l.	
2 "			75	78						cast.		
3 "			75	78	73°			E. N. E.				
4 "			75	78						Cir. stra.	c. t. l.	
5 "			75	78				East.	2			
6 "			76	78								
7 "			76	78							m.	
8 "			78	78				S. E.				
9 "			79	78		30·080	80° 70°					
10 "			79	78				East.	3		m. u. t.	
11 "			79	78								
12 "			79	78				E. N. E.	4	Cum. st.	b. c. t.	
1 P. M.			80	80								
2 "			80	80							b. c.	
3 "			80	80		30·000						
4 "			79	80								
5 "			79	80					5	Clear.	b.	
6 "			79	80						Cum. st.	b. c.	
7 "			79	80					3			
8 "			78	78					2			U. S. Ship Peacock anchored in the Roads.
9 "			80	78		30·050	77° 67°					
10 "			80	81				Calm.	0			
11 "			83	81								
12 "			83	81								
Mean.			78·42	78·96	73	30·043						

Honolulu Harbour.

Honolulu Harbour.

U. S. SHIP VINCENNES.

HONOLULU, SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 1.												
1 A. M.			76°	79°				N. E.	2	Cirrus.	b. c.	
2 "			76	79								
3 "			76	79	74°	30·040	79° 67°					
4 "			76	79				Var.	1	Clear.		
5 "			76	79								
6 "			76	79								
7 "			78	79								
8 "			79	79								
9 "			80	79	81°	30·060	80° 74°	E. N. E.	3	Hazy.	m.	
10 "			81	79								
11 "			82	79								Breaking out the hold and repairing the ships.
12 "			82	80								
1 P. M.			83	80								
2 "			83	80					4	Cum. st.	c. m.	
3 "			82·5	80		30·000						
4 "			81	80					2			
5 "			81	80								
6 "			79	80								
7 "			78	79				Calm.	0	Clear.	b.	
8 "			76	79								
9 "			76	79							b. w.	
10 "			76	79								
11 "			76	79				S. W.	2			
12 "			76	79								
Mean.			78·56	79·29	77·5	30·033						
Oct. 2.												
1 A. M.			72°	78°				Var.	1	Clear.	b. w.	
2 "			72	78								
3 "			72	78	70°	30·000						
4 "			72	78				Calm.	0			
5 "			72	78							b.	
6 "			72	78								
7 "			72	78								
8 "			73	78				S. W.	2			
9 "			78	79	75°	30·050	80° 70°			Nimbus	c.	
10 "			82	79								
11 "			83	80							c. p. d.	
12 "			82	80					3			
1 P. M.			80	82					4			
2 "			81	82								
3 "			76	83	78°	30·000						
4 "			75	83								
5 "			75	80						Cum. st.		
6 "			75	80					2			
7 "			77	79					1			
8 "			77	79					2			
9 "			77	80								
10 "			77	80				E. N. E.	1	Clear.	b.	
11 "			74	81·5								
12 "			74	81·5								
Mean.			75·83	79·71	74·33	30·017						

U. S. SHIP VINCENNES.

HONOLULU, SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 3.												
1 A. M.			74°	80°				N. E^{d}.	1	Clear.	b.	
2 "			74	80								
3 "			74	79	72°	30·030						
4 "			74	79								
5 "			74	79				N^{d}.				
6 "			74	79								
7 "			74	79								
8 "			74	79				E. N. E.	2			
9 "			79	80·5	78°	30·050						
10 "			80	80·5					4			
11 "			82	80								Overhauling the ship, breaking out hold, &c.
12 "			82	80						Cum. st.	b. c.	
1 P. M.			82	80					6	in hor.		
2 "			82	80				N. E.				
3 "			81	80		29·990						
4 "			80	80								
5 "			79	80					5			
6 "			78	80								
7 "			76	79				N.E.byE.	3			
8 "			76	79						Cir.cum	b. c.	
9 "			76	79		30·040						
10 "			76	79					1			
11 "			76	78								
12 "			76	78				Calm.	0			
Mean.			77·21	79·46	75	30·037						
Oct. 4.												
1 A. M.			75°	78°				Calm.	0	Cir.cum	b. c.	
2 "			75	78								
3 "			75	78	76°	30·030						
4 "			75	78								
5 "			75	78								
6 "			75	78								
7 "			75	78								
8 "			77	78								
9 "			77	79	80°	30·050	80° 70°	E. N. E.	2			
10 "			79	80								
11 "			82	80						Cum.		
12 "			82	80					5			Repairing vessels and preparing Observatory.
1 P. M.			82	80								
2 "			82	80				N. E.				
3 "			81	80	80°	30·050			6			
4 "			80	80				E. N. E.				
5 "			80	80								
6 "			79	80					5			
7 "			79	80				E. by N.				
8 "			79	80					3			
9 "			78	80	75°	30·080						
10 "			78	80				E. N. E.				
11 "			76	79					2			
12 "			76	79								
Mean.			78	79·21	77·75	30·052						

U. S. SHIP VINCENNES.

HONOLULU, SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 5.												
1 A. M.			77°	79°				E. N. E.	3	Cum. st.	c.	
2 "			76	79								
3 "			75	79	75°					Over-	o.	
4 "			75	79					1	cast.		
5 "			75	79				N. E^{d}.				
6 "			75	79					2	Stratus.	c.	
7 "			75	79								
8 "			76	79								
9 "			76	79	77°	30·060						
10 "			78	80						Cum.	b. c.	
11 "			79	80								
12 "			80	80								Caulking the ship inside and out.
1 P. M.			82	80								
2 "			80	80					4			
3 "			80	80		29·970						
4 "			80	80								
5 "			80	79								
6 "			80	79						Clear.	b.	
7 "			80	79								
8 "			79	79					3			
9 "			79	79	78°	30·010					b. w.	
10 "			79	79				Calm.	0			
11 "			79	79								
12 "			79	79								
Mean.			78·08	79·29	76·66	30·013						
Oct. 6.												
1 A. M.			79°	79°				Calm.	0	Clear.	b. w.	
2 "			79	79								
3 "			79	79	79°	30·020		E. N. E.	2			
4 "			79	79							b.	
5 "			80	79								
6 "			80	79				East.				
7 "			82	80								
8 "			82	80					3	Cir.cum	b. c.	
9 "			81	80	81°	30·000		E. S. E.				
10 "			81	80								
11 "			81	80					4			Employed overhauling rigging, &c.
12 "			80	80								
1 P. M.			80	80						Clear.	b.	
2 "			80	80					3			
3 "			80	80	81°	29·970						
4 "			80	80				Calm.	0			
5 "			74	80								
6 "			72	80								
7 "			72	80								
8 "			73	79								
9 "			73	79	80°	30·030					b. w.	
10 "			73	79								
11 "			73	79								
12 "			72	79								
Mean.			77·71	79·54	80·25	30·005						

U. S. SHIP VINCENNES.

HONOLULU, SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 7.												
1 A. M.			81°	82°				Calm.	0	Clear.	b. w.	
2 "			81	82								
3 "			81	82	80°	29·950		E. N. E.	3			
4 "			81	82								
5 "			81	82							b.	
6 "			81	82				Calm.	0			
7 "			80	80								
8 "			80	80				North.	1			
9 "			80	80	80°	30·010		Calm.				
10 "			80	80								
11 "			80	80				S^{d}.	3			
12 "			80	80								
1 P. M.			80	80								
2 "			80	80					4			U. S. Brig Porpoise
3 "			80	80	80°	29·990						arrived from Apia,
4 "			80	80								Samoan Group.
5 "			81	80					3			
6 "			81	80								
7 "			81	80				Calm.	0			
8 "			81	80				E. N. E.	2			
9 "			78	80		30·050					b. w.	
10 "			78	80					1			
11 "			78	80								
12 "			77	80								
Mean.			80·04	81·5	80	30·000						
Oct. 8.												
1 A. M.			75°	80°				N. E^{d}.	2	Clear.	b. w.	
2 "			74	80								
3 "			74	80	74°							
4 "			73	80						Cir.cum	b. c.	
5 "			73	80								
6 "			73	80								
7 "			73	80								
8 "			74	80					1			
9 "			80	80	78°	30·030		East.				
10 "			80	80								Men on liberty.
11 "			82	80					2			
12 "			82	81								
1 P. M.			82	80				E. N. E.				
2 "			82	80								
3 "			82	80	83°	30·010						
4 "			82	80								
5 "			79	80								
6 "			74	80								
7 "			74	80								
8 "			74	80				Calm.	0			
9 "			72	78		30·050					b. w.	
10 "			71	78								
11 "			71	78								
12 "			71	78								
Mean.			76·12	79·71	78·33	30·030						

Honolulu Harbour.

Honolulu Harbour.

U. S. SHIP VINCENNES.

HONOLULU, SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 9.												
1 A. M.			71°	78°				N. E^{d}.	2	Clear.	b. w.	
2 "			71	78								
3 "			71	78	70°	30·030						
4 "			70	78							b.	
5 "			70	78								
6 "			70	80						Cirrus.	b. c.	
7 "			74	80					4			
8 "			78	80								
9 "			78	80	78°	30·050				Cir.cum		
10 "			80	80								
11 "			82	80								
12 "			82	86								Preparing Observatory.
1 P. M.			82	80					2			
2 "			82	80								
3 "			82	80		30·000						
4 "			82	80				Var.	1			
5 "			81	80				Calm.	0			
6 "			80	80								
7 "			76	80								
8 "			76	82								
9 "			74	82		30·010						
10 "			73	82								
11 "			72	82				E. N. E.	2			
12 "			72	82								
Mean.			76·21	80	74	30·022						
Oct. 10.												
1 A. M.			72°	80°				E^{d}.	1	Cir.cum	b. c. w.	
2 "			72	80				Calm.	0			
3 "			72	80	72°	30·030						
4 "			72	80								
5 "			72	80								
6 "			73	80							b. c.	
7 "			73	80								
8 "			75	80						Nimbus	c. u.	
9 "			79	80	80°	30·030		Var.	1			
10 "			80	80								
11 "			82	80								
12 "			82	80							c. p.	
1 P. M.			81	80				Calm.	0			
2 "			81	80				N^{d}.	1			
3 "			80	82	80°	30·010		Calm.	0	Clear.	b.	
4 "			80	82						Cir. stra.	b. c.	
5 "			80	80						Cum. st.		
6 "			80	80							c.	
7 "			80	80								
8 "			75	80								
9 "			75	80		30·030				Clear.	b. w.	
10 "			74	81				E. N. E.	1			
11 "			74	81								
12 "			74	81								
Mean.			77	80·29	77·33	30·025						

U. S. SHIP VINCENNES.

HONOLULU, SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 11.												
1 A. M.			72°	80°				Calm.	0	Clear.	b. w.	
2 "			72	80								
3 "			72	80	72°	30·010						
4 "			72	80								
5 "			72	80							b.	
6 "			72	80								
7 "			74	80								
8 "			78	80				N. E^{d}.	1			
9 "			81	80	76°	29·990						
10 "			81	80								
11 "			81	81								Taking instruments on shore to the Observatory.
12 "			81	81								
1 P. M.			80	80								
2 "			81	80					3			
3 "			82	80	82°	29·990						
4 "			82	80					2			
5 "			81	80								
6 "			80	80				Calm.	0			
7 "			80	80						Nimbus	c. u.	
8 "			80	80								
9 "			79	80	76°	30·050						
10 "			79	80								
11 "			78	80				S^{d}.	2			
12 "			76	80							c. p. d.	
Mean.			77·75	80·08	76·5	30·010						

Honolulu Harbour.

OBSERVATORY.

INSTRUMENTS USED ON SHORE.

Standard barometer.

Thermometer attached.

" with the bulb covered with black wool.
" with black bulb.
" with the bulb covered with white wool.
" with plain bulb.

} South exposure.

" in a hole, four and a half feet below the surface.

Temperature of water and thermometer at mast-head, observed on board U. S. Ship Vincennes.

There was also a thermometer placed in a jar of water and buried six and a half feet deep in the ground, (black scoriæ,) which gave the temperature after fifteen days, at 82·5°.

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast head.		Direc.	Force.		
Oct. 12.														
1 A. M.								80°			Calm.	0	Nimbus.	c.
2 "								80						
3 "	30·070	74°						80	72°					
4 "								80						
5 "								80			E. N. E.	2	Cir. stra.	b. c. m.
6 "								80						
7 "								80						
8 "								80						
9 "	30·060	79						80	78°					
10 "								80				4	Cumulus	b. c.
11 "								80						
12 "								80						
1 P. M.								80						
2 "								80				5		
3 "								80			N.E.byE.			
4 "	30·100	85	92°	94°	90°	88°	83°	80						
5 "	·100	85	82	87	81	80·5	82	80			E. N. E.			
6 "	·108	85	80	79·5	78	78	83	80				3		
7 "	·140	83	77	77	74	77	82·5	80			East.		Clear.	b.
8 "	·124	83	77	77	74	77	75	80						
9 "	·120	82	76	77	74	76	75	80	74°.			2		
10 "								80						b. w.
11 "	·100	81	77	77	74	76	75	80				1		
12 "	·154	80·5	76	76·5	75·5	76	80	80						
Mean.	30·107	81·75	79·62	80·62	77·5	78·56	79·44	80	74·66					
Oct. 13.														
1 A. M.	30·150	80·5°	74°	76°	74°	74°	80°	80°			East.	2	Clear.	b. w.
2 "								80						
3 "								80	74°					
4 "	30·100	80	75	77	75	75	80	80						b.
5 "	·100	80	75	77	75	75	80·5	80						
6 "	·100	79·5	76	76	75	74	80	80						
7 "	·110	79	76	77	75	77	80	80			E. N. E.	4		
8 "	·110	79·5	80	80	80	80	80	80						
9 "	·110	81	84	84	84	80	80·5	80	79°					
10 "	·150	82	88	88	85	86	81·5	80						
11 "	·146	83	98	98	92	92	82	80						
12 "	·146	83·5	88·5	88	89	86	82	80				5		
1 P. M.	·100	84	94·5	95	96	88	82·5	84						
2 "	·100	84	90	95	94	88	82	84						
3 "	·075	84	86	92	92	88	82	80	79°					
4 "	·075	84	87	90	86	84	82·5	84						
5 "	·075	89	84	85	84	84	82	84						
6 "	·075	84	76·5	77	77	77	82	80				4		
7 "	·140	84	76	77	77	77	81	80						b. w.
8 "	·140	80	76	75	76	75	80	80						
9 "	·140	80	76	75	75·5	75	80	79						
10 "	·140	80	76	76	75	77	80	79				2		
11 "	·140	80	74	76	77	76	80	79						
12 "	·140	80	77	76	77	76	79	79						
Mean.	30·114	81·63	81·25	82·27	81·38	80·18	80·89	80·5	77·33					

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Oct. 14.														
1 A. M.	30·124	79°	74·5°	75°	74°	75°	79°	80°			E. N. E.	2	Clear.	b. w.
2 "								80						
3 "								80	75°				Cir. cum.	b. c. w.
4 "								80						b. c.
5 "	30·140	77	74	70	69	69	80	80			East.			
6 "	·140	77	70	71	69	80	80	80				1		
7 "	·140	78	84	86·5	80	82	82	80						
8 "	·140	79	88	90	90	84	80·5	80						
9 "	·140	81	92	94	90	86	81	80	78°		E. N. E.			
10 "	·140	83	94	87	90	90	82	80					Cum. st.	
11 "	·136	84	98	86	97	92·5	86	80			N.E.byE.			
12 "	·136	81	90	89	91	86	83	80						
1 P. M.	·120	84	89	88	88	87	82	80						
2 "	·100	84	89·5	90	90	86	82	81						
3 "	·100	84·5	82·5	83	82	81	82	81	82°					
4 "	·100	84	82	83	82	81	82	81						
5 "	·100	82	81	82	82	80	81·5	81						
6 "	·100	82	77	79	80	78	81	80						
7 "	·100	82	77	78	77	76	80·5	80				2		
8 "	·100	82	77	78	77	76	80·5	80						
9 "	·150	82	75	75	76	75	80·5	79	74°					
10 "	·150	81·5	75·5	76	76	76	81	79				1		b. c. w.
11 "	·150	81·5	75·5	77	76	74	81	79						
12 "	·150	81	75	77	76	76	80·5	79			Calm.	0		
Mean.	30·125	81·4	81·92	81·55	81·52	80·5	81·33	80	77·25					
Oct. 15.														
1 A. M.	30·130	81°	75·5°	77°	75°	75°	80·5°	78°			N. E^{d}.	1	Clear.	b. w.
2 "	·122	80	75	76	75	75	80	78						
3 "	·110	79·5	75	76·5	74	74	80·5	78	75°					
4 "	·100	79	76	76	74	74	80·5	78						
5 "	·072	79	76	76	74	74	80	78						b.
6 "	·090	79	76	76	74·5	75	80	78				2	Stratus.	c.
7 "	·110	79	79	79	77·5	79	79·5	78					Overcast.	o. m.
8 "	·168	79	84	83	82	80	80	78						
9 "	·180	80	98	89	96	88	80·5	79	81°					
10 "	·180	81	88	87	88	85·5	81	80					Cir. stra.	c. m.
11 "	·150	81·5	88	86·5	88	82·5	81·5	80			N.E.byE.	4		
12 "	·150	87·5	98	95·5	99	90	82	80						
1 P. M.	·128	84	88	99·5	92	87·5	82	80			E. N. E.			
2 "	·128	84	88	89	92	86	82	80						b. c.
3 "	·110	83·5	87	86	88	84	82·5	80	84°			3		
4 "	·130	82·5	84	84·5	84	82	82	80						
5 "	·125	84	81	82	82	80	81·5	78						
6 "								78				4		
7 "	·160	81	77	77	78·5	78	80	78					Clear.	b.
8 "	·150	80	77	77·5	77	77·5	80	78				5		
9 "	·150	80·5	77	77	77	77	80	78	75°					
10 "	·130	80	76	77	76	77	80	78						b. w.
11 "	·150	80	78	76	76	77	80	78						
12 "	·130	80	75	76	76	76	80	78						
Mean.	30·133	81·08	81·56	81·7	81·41	79·65	80·7	78·63	78·75					

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc	Force.		
Oct. 16.														
1 A. M.	30·132	80°	75·5°	76·5°	75·5°	75·5°	80°	78°			N. E^{d}.	4	Clear.	b. w.
2 "								78						
3 "	·130	78·5	76	76	75	76	79·5	78	76°					
4 "	·130	78	76	76	75	76	79·5	78						b. m.
5 "	·130	79	78·5	77·5	77	78	79	78						
6 "	·150	78	78	78	78	78	79	78				5		
7 "	·150	78	82	83	80	79	83	78						
8 "	·150	79	82	77	82	80	85	79					Cir. stra.	b. c. m.
9 "	·160	81	86	90	86	82	81·5	79	78°					
10 "	·160	81	90	90·5	86	81	90·5	79					Nimbus.	c. m.
11 "	·160	83	89	89·5	99	85	81·5	80			E. N. E.			
12 "	·130	84	88·5	87·5	87	84	82	80				6		
1 P. M.	·130	83	84	85	84	83	82	80						
2 "	·130	84	86	89	88	86	82	80			N.E.byE.			p.
3 "	·100	83·5	82	85	84	82	82	80	81°			5		
4 "	·120	83	84	90	90	84	81·5	80						
5 "	·150	86	81	81	81	80	81·5	80						
6 "	·140	83	78	80	80	80·5	69	80						
7 "	·150	81	70	78·5	69·5	78	68	78						
8 "	·170	79	72	76	72	76	68	78						
9 "	·160	78	72	75	70	75	68·5	78	75°		N. E.			
10 "	·160	78	72	75	74	75	68	78					Cum. st.	c. m.
11 "	·158	78	73	75	74	75	68	78						
12 "	·150	78	74	76	76	76	69	78			E. N. E.			
Mean.	30·145	80·61	79·56	81·34	79·91	79·34	77·73	78·79	77·5					
Oct. 17.														
1 A. M.	30·150	77°	74·5°	76°	76°	76°	69·5°	78°			E. N. E.	4	Cum. st.	b. c. m.
2 "	·150	77	74·5		76	76·5	69·5	78						
3 "	·150	77	75		75	76	68	78	76°					
4 "	·150	77	75	76	74	75·5	68	78						
5 "	·150	77	75	76	75	75·5	68·5	78						
6 "	·150	77	74·5	75	77	76	68·5	78					Nimbus.	c.
7 "	·150	78	77·5	77	78	76	68·5	78						
8 "	·176	79	87	83·5	84	84	70	78						
9 "	·180	80·5	84	85	84	82	84	79	81°			6		
10 "	·166	81·5	92	83	92	82·5	81·5	79						p.
11 "	·130	83	92	93	92	89	81·5	79						
12 "	·130	83	87	87	87	84	81·5	79						
1 P. M.	·120	83	88	91	89	84	82	80					Stratus.	
2 "	·100	83	86	91	89	84	82	80						
3 "	·100	83	82	85	86	86	82	80	82°					c.
4 "	·100	82	81	83	82	80	81	80						
5 "	·100	81	77	81	78	80	79	79						
6 "	·100	79		77		77		79						
7 "	·122	79·5	76	69·5	73	76	79·5	79				7		c. q.
8 "	·140	79	74	72	73	74	79	79				6		
9 "	·150	78·5	73	69·5	73	74	79	78				5		
10 "	·150	78	73	69	73	74	79	78				7		
11 "	·150	78	73	69	73	74	79	78				5		
12 "	·150	78	73	69	73	73·5	78·5	78						
Mean.	30·142	79·58	79·3	78·95	79·65	78·72	76·43	78·66	79·66					

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Oct. 18.														
1 A. M.	30·148	78°	74°	76°	74·5°	74°	78°	78°			E. N. E.	4	Cum. st.	c.
2 "	·138	77·5	70	68	70	68	75	78						
3 "	·138	77	70	74	70	71	75	78	74°					p.
4 "	·138	77	71	74·5	70	71	75	78						c.
5 "	·100	76·5	73·5	72	72	75	76	77						
6 "	·110	75	76	74	74	76	76·5	77						
7 "	·120	75	76	76	76	75	76	77						
8 "	·140	77	84	85	84	82	77	77			N.E.byE.			
9 "	·150	80	90	91	90·5	86	75	78						
10 "	·150	80	90	91	90	86	78·5	78						
11 "	·150	81·5	94	95	93	90	80	78						c. p. d.
12 "	·150	94	93	94·5	94	89	79	78				6		
1 P. M.	·118	83	90	90·5	91	86	80	79			E. N. E.			
2 "	·109	84	96	96·5	96	91	81	79						
3 "	·080	83	94	94	94	89	81	79						
4 "	·090	80·5	82	84	84	82	80	79						
5 "	·136	80	80	83·5	81	80	80	78				4		b. c.
6 "	·136	80	78	77	78	77	80	78						
7 "	·136	80	78	78	78	76	76	78						
8 "	·150	79	75	75	75	75	76	78						
9 "	·150	79	75	75	75	75	76	78						
10 "	·150	79	76	76	76	76	77	78			N. E[a].	1		
11 "	·150	79	74	74	74	74	78	78						
12 "	·150	79	76	76	76	76	76	78						
Mean.	30·132	79·75	80·62	81·12	80·66	79·16	77·58	78	74					
Oct. 19.														
1 A. M.	30·122	79°	75°	76°	75·5°	75·5°	79°	78°	*		North.	1	Cumulus	b. c.
2 "	·122	79	75	76	75	75	78	78						
3 "	·122	79	75	76	75	75	78	78			Calm.	0		
4 "	·122	79	74·5	75·5	75	75	78	78						
5 "	·110	78	73·5	75	72	74·5	78·5	78			N. E.	3		
6 "	·110	78	73·5	75	72	74	78·5	78						c. p. d.
7 "	·152	79·5						78						b. c.
8 "	·152	79	84	86	80	80	79	78						
9 "	·172	80·5	89	86·5	89	81	80	78						
10 "	·150	81·5	92	93	84	88	80·5	78				4		
11 "	·140	83	89	88	89	85	81	78			N.E.byE.		Clear.	b.
12 "	·126	83	91	95	94	90	81	78						
1 P. M.			90	88	89·5	86	82	78						
2 "	·098	94	90	88	89·5	86	82	78						
3 "	·146	84	87	90	88·5	86	81	78						
4 "	·100	84	94	91	92	86	81·5	78				2		
5 "	·130	80·5	82	83	82	81	80·5	78						
6 "	·130	81	79	80	80	81	80	78						
7 "	·130	80·5	79	78	80	79	80	78						
8 "	·134	80	76	79	75	78	79	78				1	Cir. cum.	b. c.
9 "	·136	80	76	77	74	76	79	77						
10 "	·126	80	75	76	74	74	79	77				2		
11 "	·160	79·5	74	76	74	74·5	78·5	77						
12 "	·140	79	74	76	74	74	78	77						
Mean.	30·131	80·91	81·17	81·91	80·56	79·89	79·65	77·83						

* After this date, the ship being stripped, no observations were made on the temperature at the masthead, until the 29th.

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Oct. 20.														
1 A. M.	30·102	78·5°	76°	77°	74°	74°	77°	77°			E. N. E.	2	Cir. cum.	b. c.
2 "	·102	78	74	73·5	73	73	75	77						
3 "	·102	78	74	73	73	73	75	77						
4 "	·102	78	73	73	73	73	79	77						
5 "								78						
6 "	·138	78	70	70	71·5	70	79	78				3		
7 "	·126	79	81·5	78	80	80	79·5	78						
8 "	·120	80	76	74	75	73	80	78					Nimbus.	c. u.
9 "	·130	80·5	88	95	88	88	80·5	78						
10 "	·150	84	100	97	94	90	84	79						
11 "	·120	83·5	89	90·5	91·5	86	83·5	79				4		
12 "	·120	83·5	80	76	84	78	83·5	79				5		c. p. d.
1 P. M.	·080	83	96	88	96	92	83	79			N. E.			
2 "	·060	82	82	83	86	88	82	79						
3 "	·060	83	76	73	74	72	83	79						
4 "	·060	83	77	75	76	75	83	79						
5 "	·050	83	72	73	73	75	83	79					Cumulus	b. c.
6 "	·070	81	70	71	70	74	81	79				3		
7 "	·042	80	70	73	71	73	80	78			N.E.byE.			
8 "			72		72			78						
9 "	·100	79	72	75	72	74	77·5	78						
10 "	·100	78	72	75	72	74	78	78						
11 "	·100	78	72		72	74·5	78	77				1		
12 "	·100		72		72	74·5	78	77			Calm.	0		
Mean.	30·097	80·52	77·67	78·15	77·52	77·45	79·43	78·12						
Oct. 21.														
1 A. M.	30·100	78°	72·5°	74°	72°	74°	78°	77°			Calm.	0	Cum. st.	b. c.
2 "	·100	78	72	74	72	73	79	77						
3 "	·112	79	72	79	71·5	73	78	77						
4 "	·102	78	72	74	71	73	79	77			N. E[d].	2		
5 "	·072	77	71	71	71	71	75	77						
6 "	·072	77	71	71	71	71	78	77						
7 "	·082	77·5	74	76·5	75	75	78·5	77					Clear.	b.
8 "	·086	78	84	87	83	84	79	77						
9 "	·070	79·5	99	84	97	89	80	79				3		
10 "	·080	80	100	96·5	100	90	81	79						
11 "	·080	81	98	98	100	92	81	79				5		
12 "	·060	81	91	95	94	91	81	79						
1 P. M.	·040	82	90	94	93	88	81	79						
2 "	·010	81·5	89·5	93	90	97	81	79						
3 "	·010	81·5	88	94·5	90	87·5	81·5	79						
4 "	·010	81·5	84	80·5	86	86	81·5	79			E. N. E.			
5 "	·020	82	84	86	85	82	81	79						
6 "	·040	80	83	81·5	80	80	79·5	79						
7 "	·040	80	79	75	76	78·5	79	78						
8 "	·060	79	72	76	72	74	78	78						b. w.
9 "	·050	79	73·5	76	72	74	78·5	78				2		
10 "								78				1		
11 "								78			South.	2		
12 "								78			Var.	1		
Mean.	30·061	79·52	81·88	82·69	81·95	81·05	79·45	78·08						

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Oct. 22.														
1 A. M.	30·054	79°	68°	68°	68°	68°	78°	77°			E. N. E.	1	Clear.	b. w.
2 "	·054	79	68	68	68	68	78	77						
3 "	·054	79	68	68	68	68	77	77						
4 "	·054	78·5	70	70	70	70	75	77			Calm.	0		
5 "	·054	79	70	70	70	70	78	77						b.
6 "	·050	78	70	70	70	70	78	77						
7 "	·040	77	69	69·5	69	69	78	77			South.	1		
8 "	·040	79	80	81	80	78	79	77						
9 "	·050	80	94	77	91	84	80	78						
10 "	·070	81	94	99	93	88	81	78			Calm.	0		
11 "	·070	82	92	90	93	89	81	78					Stratus.	b. c.
12 "	·050	82	100	97	99·5	92	81·5	78			E. N. E.	4		
1 P. M.	·050	83	94	93	96	90	81	79						
2 "	·020	83	96	95	97	90	81	79						c.
3 "	·020	83	94	92	92	87	81	79		80° 66°				
4 "	·020	82	84	83	84	81	81	79						
5 "	·020	81	79	79	79	78	80	79					Overcast.	o.
6 "	·070	80	75	76	75	73	75	78			Var.	1		
7 "	·070	80	75·5	74	75	75	78	77						
8 "	·070	80	75	76	75	74·5	78	77						
9 "	·070	80	73·5	72	73	72	78	77			N. E^{d}.	2		
10 "	·070	80	74	72	73	72	78	77						
11 "	·080	80	74	72	73	72	78	77						
12 "	·080	80	74	72	73·5	72	78	77			Calm.	0		
Mean.	30·053	80·39	79·62	78·45	79·37	77·19	78·78	77·62						
Oct. 23.														
1 A. M.	30·080	80°	72°	71°	71°	71°	78°	77°			Calm.	0	Stratus.	c.
2 "	·080	80	71	70	70	70	78	77			N. E.	2		
3 "	·080	79	70	70	70	70	78	77		74° 70°				
4 "	·080	79	70	70	70	70	78	77						
5 "	·080	79	70	70	69·5	69·5	78	77			Calm.	0		
6 "	·080	79	68	68	68	68	78	77						
7 "	·080	79	68	68·5	68	68	78·5	77						
8 "	·100	79	80·5	80	80	80	79	77					Clear.	b.
9 "	·130	81	92	91·5	92	88	80	78		76° 73°				
10 "	·130	81	93	91·5	84	87·5	81·5	78			E. N. E.	3		
11 "	·130	82	88	83	88	85	81·5	78					Cir. cum.	b. c.
12 "	·120	82	88	88	89	87	81·5	78						
1 P. M.	·110	83	92	95	94	90	92	78				2		
2 "	·070	83	86	90	90	87	81·5	78						
3 "	·060	83	82	85	84	85	81	78						
4 "	·060	83	81·5	83·5	82·5	81·5	81	78				1		
5 "	·080	83	79·5	80	79·5	79·5	81	79					Nimbus.	c.
6 "	·100	82	75	77	75	75	80	78			S. W.	3		
7 "	·130	82	75	77	75	75	80	78				5		r. q.
8 "	·130	81·5	74	76	74	74	75	78				6		
9 "	·130	80	74	75	74	74	80	78		Rain.	South.	2		
10 "	·130	80	70	72	70	70	78	78				5		
11 "	·130	80	70	72	70	70	78	78				3		c.
12 "	·128	81	70	72	70	70	77	78			S. E.			
Mean.	30·105	80·87	77·48	78·08	77·39	77·29	79·96	77·71						

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Oct. 24.														
1 A. M.	30·128	81°	70°	72°	70°	70°	77°	78°			N. E^{d}.	4	Nimbus.	c. u.
2 "	·110	81	70	72	70	70	77	78						
3 "	·046	79	71	72	71	72	77	78						
4 "	·046	78	71·5	72	71·5	72	77	78				2		c. p. d.
5 "								78			East.			
6 "								78						
7 "								78						r.
8 "	30·076	81	74	76·5	73·5	74	80	78			E. S. E.			
9 "	·084	81	74	74	74	75	82	78						
10 "	·086	81	74	76	74	74	80	78				3		
11 "	·086	80	74	76	77	76	80·5	78						
12 "	·070	81	74	75	73	76	81·5	78			S. S. E.	2		d.
1 P. M.	·050	81·5	74	82	74	76	79	78						
2 "	·050	81·5	74	78	74	76	79	78						
3 "	·060	80·5	76	78	74	76	79	78						
4 "	·050	81·5	76	78	74	76	79	78			S. W^{d}.	1		r.
5 "	·050	81	74	76	72·5	74	79	78						
6 "	·050	80·5	74	76	72	74	78	78						
7 "	·050	80	74	76	72	74	78	78						
8 "	·084	79·5		74				78			South.			
9 "	·084	79·5	71·5	72	72	72		78						r.
10 "	·084	79·5	70·5	71·5	70·5	70		78						
11 "	·050	79	71	71	70	70		78			S. E^{d}.			
12 "	·050	79	71	71·5	71	70·5		78		Rain 4·5 in.				c.
Mean.	30·068	80·27	72·92	74·61	72·5	73·37	78·93	78						
Oct. 25.														
1 A. M.	30·040	79°	70°	70°	70°	70°	72°	78°			S. E^{d}.	1	Nimbus.	c.
2 "	·040	79	70	71	70	70	73	78						
3 "	·028	79	70	71	70	70	73	78					Stratus.	
4 "	·030	79	69	71	70	70	73	78			Calm.	0		
5 "	·030	79	70	71	70	70	73	78						
6 "	·032	79	69	71	69	70	73	77						
7 "	·038	79	86	87	83	86	73	77					Cir. stra.	b. c.
8 "	·050	79	92	86	84	84	73	77						
9 "	·050	79·5	90	87	84	86	73·5	80						
10 "	·100	80	100	95	98	91·5	74	78					Clear.	b.
11 "	·075	81	94	93	98	86	74	78			S. E^{d}.	1		
12 "	·070	81	87	86	87	80	75	78						
1 P. M.	·040	82	85	86	85	84	75	78					Cir. cum.	b. c.
2 "	·016	83	84	86	85	80	76	78				3		
3 "	·016	83	84	86	85	80	76	78						p.
4 "	·016	82	80	83·5	80	80	76	78						b. c.
5 "	·016	80	77	76	77	77	76	78			East.	4		
6 "	·016	82	75	76	75	75	76	78						
7 "	·020	81	72	75·5	75	75	76	78						
8 "	·077	77	72	74	73·5	75	76	78						
9 "	·070	77	72	72	72	72	75	78			E. N. E.			
10 "	·080	77·5	70	72	70	70	75	78				3		
11 "	·080	77·5	70	70	70	70	75	78						
12 "	·080	77	70	70	70	70	75	78						
Mean.	30·046	79·69	78·25	78·58	78·12	76·73	74·43	77·96						

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Diree.	Force.		
Oct. 26.														
1 A. M.	30·080	77°	70°	70°	70°	71°	75°	78°			Calm.	0	Cir. cum.	b. c.
2 "	·088	77	70	70	71	70	75	78						
3 "	·084	77	70	70	70	70·5	75	78						
4 "	·080	77	69	68·5	68	69	74·5	78						
5 "	·080	76	67	68	67	68	74	78			E. N. E.	3		
6 "	·100	75	70	74	72	74	75	78						
7 "	·096	75	72	74	72	73	75	78					Cum. st.	c.
8 "	·100	78	92	88	86	80	76	78						
9 "	·134	79	86	84	84	84	76	79						
10 "	·142	89	100	94	98	88		79						
11 "	·150	89	107	98	101	90		79				4		
12 "	·100	81	108	98	104	91		80						
1 P. M.	·100	81	108	103	106	98		80						
2 "	·092	80	82	84	82	80		80						
3 "	·080	80	86	87	86	82		79				2	Cir. cum.	
4 "	·080	77	83	83	82	80		79						
5 "	·080	79	78	77	76	76	76·5	79						
6 "	·080	78	72	75	72	72	75	78						
7 "	·090	78	72	74	72	71·5	75	78						
8 "	·092	78	72	74	72	71·5	75	78						
9 "	·150	76·5	72	73	72	72	74·5	78					Clear.	b. w.
10 "	·150	76	72	72	72	72	74·5	78			Calm.	0		
11 "	·146	76	71·5	72	72	72	74·5	78						
12 "	·146	76	71·5	72	72	71·5	74	78						
Mean.	30·104	78·54	79·83	79·31	79·12	76·96	74·97	78·5						
Oct. 27.														
1 A. M.	30·150	76°	68°	69°	68°	68°	75°	78°			Calm.	0	Clear.	b. w.
2 "	·150	76	68	69	68	68	75	78						
3 "	·150	76	68	69	68	68	75	78						
4 "	·120	76	68	69	67	67	75	78						
5 "	·120	76	67·5	69	67	67	75	78						b.
6 "	·120	76	67	69	67	68	75	78			East.	2		
7 "	·150	76	74	81	74	74	75	78						
8 "	·150	77	88	92	84	80	76	78						
9 "	·150	77	105	85	99·5	90	76	79						
10 "	·160	79	91	88	90	86	77	79				3		
11 "	·150	80	98	95	98	88	77	79						
12 "	·150	80	98	96	97	90	77	79			E. N. E.	4		
1 P. M.	·120	80	94	95	94	89·5	77	79						
2 "	·120	80	86	91	88	86	77	79				6		
3 "	·100	80	81	87	82	80	77	79						
4 "	·110	80·5	88	86	86	84	77	79						
5 "	·110	80	80	86	80	82	77	78						
6 "	·150	79	72	74	72	72	76	78				2		
7 "	·150	78	72	74	72	72	76	78						b. w.
8 "	·160	77	72	73	72	72	74·5	78						
9 "	·200	77	71	73	71	72	75	78						
10 "	·200	76	71	73	72	72	75	78						
11 "	·200	76	71	73	72	72	75	78			Calm.	0		
12 "	·200	76	69	73	69	71	75	78						
Mean.	30·147	77·69	78·65	79·54	78·23	76·6	75·81	78·33						

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Oct. 28.														
1 A. M.	30·200	76°	72°	73°	71°	71·5°	75°	77°			Calm.	0	Clear.	b. w.
2 "	·170	76	70	72	70	70	75	77						
3 "	·140	76	70	71	70	70	75	77			N. E^{d}.	1		
4 "	·150	75·5	70	71	70	70	75	77						
5 "	·150	75	70	72	70	70	76	78			Calm	0		b.
6 "	·170	76	71	74	71	71	76	78						
7 "	·175	76	74	75	74	74		78			N. E^{d}.	1	Cum. st.	b. c.
8 "	·190	77	80	78	78	76		78						
9 "	·190	78	96	77	94	76	77	78					Nimbus.	c.
10 "	·180	78	88·5	86	88	82	77·5	78			E. N. E.	2		
11 "	·100	80	88	88·5	90	86	78	78						
12 "	·100	80	88	87	88	82	78	78						
1 P. M.	·100	81	83	82	83	78	77	78						
2 "	·100	81	80	78	78	76	77	78						
3 "	·090	80·5	81	82	80	80	77	78				4		d.
4 "	·090	80·5	86	86	86	76	77	78						
5 "	·100	79	84	75	84	74	77	78						
6 "	·110	78	84	75	84	74	77	78						r.
7 "	·106	76·5	76	75	76	74	76	78			N.E.byE.	6		
8 "	·100	75	74	74·5	74	74	76	78						
9 "	·100	75	73	74	74	73	76	78				9		c. q. r.
10 "	·110	75	73	74	73	73	76	78				5		c. r.
11 "	·100	75	73	73·5	73	72	75	78			E. N. E.			
12 "	·100	75	73	73	73	72	75	78					Cir. cum.	c.
Mean.	30·130	77·29	78·23	76·91	78	74·77	76·29	77·93						
Oct. 29.														
1 A. M.	30·150	74°	70°	72°	70°	70°	75°	78°			E. N. E.	5	Cir. cum.	b. c.
2 "	·150	74	70	72	70	70	75	78						
3 "	·132	73	70	71	70	70	75	78					Nimbus.	
4 "	·132	73	70	71	70	70	75	78						
5 "	·132	75	72	71	74	74	75	78						
6 "	·130	75	73	74	73	73	76	78				6		
7 "	·130	74·5	73	74	73	74	75	78						
8 "	·170	75	79	78	79	77	75	78			East.			c. p.
9 "	·200	75	73	70	74	70	75	78	75°					
10 "	·200	77	75	76	76	72	75	78						
11 "	·200	77	83	83	85	80	76	78						
12 "	·200	77	86	85	86	81	76	78						c.
1 P. M.	·160	78	78	83·5	78	80	77	78						
2 "	·150	78	78	84	77	80	77·5	78						
3 "	·140	77	77	75·5	77	76	77·5	78	74°		E. S. E.	5		
4 "	·140	76	74	76	74	76	76	78						
5 "	·150	78	73	75	73	76	75	78						
6 "	·160	75	72	74·5	73	73	75	78						
7 "	·160	75	72	73	72	72	75	78						
8 "	·150	75	72	73	72	72	75	78						c. p.
9 "	·126	75	72	72·5	72	72	75	78						
10 "	·126	75	72	72	72	72	75	78						
11 "	·126	75	72	72	72	72	75	77						
12 "	·120	75	72	72	72	72	75	77						
Mean.	30·152	75·48	74·08	75	74·33	73·91	75·46	77·92	74·5					

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Oct. 30.														
1 A. M.	30·122	74°	72°	73°	72°	72°	75°	77°			E. N. E.	4	Nimbus.	c. p. d.
2 "	·112	74	72	73	72	72	75	77						
3 "	·112	74	72	73	72	72	75	77	71°	Rain.				
4 "	·112	74	72	73	72	72	75	77						
5 "	·112	74	72	73	72	72	75	76						
6 "	·100	74	72	73	72	72	75	76				2		c. p.
7 "	·100	74	73	74	75	74	75	76						
8 "	·100	75	76	76	76	76	75·5	76						
9 "	·150	75	88	88	87	85	76	76	75°	Rain.	N.E.byE.	5		
10 "	·150	75	84	82	84	86	76	77						
11 "	·150	77	82	86	82	86	75	77				7		c. p.
12 "	·125	77	76	82	77	80	77	77				9		p. q.
1 P. M.	·120	77	76	75	77	72	76	77				6		p.
2 "	·080	76	72	83	73	78	76	77						
3 "	·080	76	72	83	73	78	76	77	74°	Rain.	E. N. E.			
4 "	·100	75	70	76	71	76	76	77						
5 "	·076	75	70	69·5	70	75	76	77				10		p. q.
6 "	·068	75	68	69·5	68	70	76	77				6		p.
7 "	·070	75	68	69	68	70	70	77						
8 "	·126	74	69	74	70	72	76	77						
9 "	·150	74	69	74	69	72	76	77		Rain.		5		
10 "	·150	74	69	74	67	76	76	77			East.		Stratus.	
11 "	·150	76	69	77	67	68	76	77						
12 "	·150	73	69	73	70	72	75	77						c.
Mean.	30·115	74·87	73	76·29	73·08	74·92	75·39	76·79	73·33					
Oct. 31.														
1 A. M.	30·150	75°	71°	70°	70°	71°	73°	77°			E. N. E.	5	Cum. st.	c.
2 "	·150	73	71	71	70	71	73	77						
3 "								77		Rain.				c. p.
4 "								77						
5 "	·151	75	72	71	71°	70	72	77				2		c.
6 "	·150	73	72	74	70	72	74·5	77						
7 "	·100	74	74	75	74	74	74	77						
8 "	·110	74	77	78	78	76	75	77						
9 "	·110	73	81	80	82	80	75	77				5		b. c.
10 "	·120	75	84	86	84	82	76	77						
11 "	·120	76	84	86	84	80·5	76	77			N. E.			
12 "	·100	76	86	88	86	84	76	77						
1 P. M.	·100	77	85	88	85	82	77	77						
2 "	·100	77	85	88	85	82	77	77						
3 "	·076	77	86	89	86	86	76	77						c. q.
4 "	·078	78	81	88·5	82	80	76	77				6		
5 "	·100	78	76	88	77	86	75	77						
6 "	·100	77	74	76	74	74	75	77						
7 "	·100	76·5	74	76	74	74	75	77						c. p. q.
8 "	·100	76	73	74	72	73	75	77						*
9 "	·126	77	70	73	71	72	75	77						c. p.
10 "	·142	77	71	74	72	73	75	77						
11 "	·142	77	71	74	72	73	75	77		Rain.				c.
12 "	·150	76	72	75	72	74	76	77						
Mean.	30·118	75·79	76·81	79·18	76·86	76·48	75·07	77						

* A lunar rainbow, well defined, at 8 h. 45 m.

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Nov. 1.														
1 A. M.	30·100	76°	73°	73°	73°	73°	75°	77°			E. N. E.	3	Cir. cum.	c.
2 "	·100	76	73	73	73	73	75	77						
3 "	·098	75	72	73	72	72	75	77	73°					
4 "	·100	75·5	72	72·5	72	72	75	77						
5 "	·100	76	72	72·5	72·5	72	75	77						
6 "	·100	76	72·5	72·5	73	73	75	77			East.	4		
7 "	·100	76	78	72 5	78	78	75	77					Clear.	b.
8 "	·100	76	88	84	88	82	76	77						
9 "	·100	75	88	85	88	82	76	77	75°					
10 "	·118	77·5	90	89	90	84	76	77						
11 "	·100	78	90	78	91	76	76	78			E. N. E.	6		
12 "	·100	79	90	92	92	88	76	78						
1 P. M.	·050	77	86	90	89	86	77	78						
2 "	·020	79	81	89	86	82	77	78			N. E.			
3 "	·020	79	83	89	85	82	77	77	77°					
4 "	·050	78	83	87	85	81	75	77						
5 "	·050	79	73	79	78	76	75	77						
6 "	·077	77	71	73	71	73	75	77						
7 "	·100	76	72	73	72	72	75	77				5		
8 "	·100	76	70	72	71	71·5	75	77					Cir. cum.	b. c.
9 "	·100	75	70	71	70	70	75	77	71°					
10 "	·100	75	70	71	70	70	75	77				4		
11 "	·100	75	70	71	70	70	75	77						
12 "	·100	75	70	70·5	70	70	75	77						
Mean.	30·087	76·54	77·39	78·02	78·23	76·18	75·47	77·16	74					
Nov. 2.														
1 A. M.	30·100	74°	66°	68°	66°	66°	75°	77°			N. E.	4	Cir. cum.	b. c.
2 "	·100	74	66	67	66	66	75	77						
3 "	·100	74	66	67	66	66	75	77	71°					
4 "	·100	74	63	64	63	63	75	77						
5 "	·100	74	65	65	65	65	75	76				2		
6 "	·090	74	66	67	67·5	67	75	76						
7 "	·100	74	82	77	78	73	75	76						
8 "	·100	75	80	78	78	76	75	76						
9 "	·110	75	81·5	79	79	76	75	77	76°			1	Clear.	b.
10 "	·076	75	104	97	102	92	76	77						
11 "	·072	75	104	97	102	92	76	77			Nd.			
12 "	·072	75·5	100	95·5	98	88	76·5	77						
1 P. M.	·020	77	94	95	96	88	77	78			Calm.	0		
2 "	·026	77	93	95	95	88	76	78						
3 "	·020	77	87	94	94	86	76	78	79°					
4 "	·020	77	77	77	78	76	76	80						
5 "	·040	78	80	78	78	78	77	80			Var.	1		
6 "	·050	77	68	75	69	69	77	80						
7 "	·050	76·5	67	67	67·5	68	75	80			Calm.	0		
8 "	·050	76	66	66	66	66	75	80						
9 "	·050	76	66	66	66	66	75	79						b. w.
10 "	·080	75	64	65	64	65	75	77						
11 "	·050	75	67	68	69	65·5	75	77						
12 "	·050	75	68	68	67	68	75	77						
Mean.	30·067	75·42	76·68	76·46	76·66	74·06	75·52	77·66	75·33					

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Nov. 3.														
1 A. M.								77°			N. E^{d}.	1	Cir. cum.	b. w.
2 "								77						
3 "								77	70°					
4 "								77			Calm.	0		
5 "	30·000	73°	63°	64°	63°	63·5°	76°	77						
6 "	·000	73	63	64	63	63	73	77					Clear.	b.
7 "	·030	74	79	80	76	79	74	77						
8 "	·020	75	82	89	84	82	75	77						
9 "	·020	76	99	91·5	90	90	76·5	78			N. E^{d}.	3		
10 "	·020	77	98	93	98	90	76	78						
11 "	·020	78	102	96	102	90	77	78						
12 "	·000	79	100	93	102	88	77	78						
1 P. M.	29·984	80	96	96	99	88	77	78				2		
2 "	·984	80	95	96	98	89	77	78						
3 "	·966	80	80	82	84	79	77	78	77°					
4 "	·980	79	82·5	83	82	79	77	78						
5 "	·980	79	76	76	76	76	79	78						
6 "	·998	78	73	76	73	73	76	78				4	Cir. cum.	b. c.
7 "	30·000	78	73	74	73	73	76	78						
8 "	·000	78	73	74	73	73	77	78			Calm.	0		
9 "	·000	77	72	73	72	72	76	78						
10 "	·020	77·5	68	68	68	68	75	78						
11 "	·020	77	68	68	68	68	75	77			N. E^{d}.	1	Nimbus.	c.
12 "	·026	77	68	68	68	68	75	77			Calm.	0	Cir. stra.	
Mean.	30·003	77·27	80·52	80·22	81·1	77·22	76·07	77·58	73·5					
Nov. 4.														
1 A. M.	30·050	77°	69°	70°	69°	66°	75°	77°			Calm.	0	Cir. stra.	b. c.
2 "	·020	77	69		67	66	75	77						
3 "	·000	77	68		69·	68	74	77	70°					
4 "	·000	76	69	70	69	70	74·5	77			S. E^{d}.	2		
5 "	·000	76	69	70	69	70	76	77						
6 "	·020	76	70·5	70	71	70·5	76	77					Cir. cum.	
7 "	·020	77	73	75	73	74	76	78						
8 "	·020	77	76	76	75	76	76	78						
9 "	·072	78	90	83·5	90	82	76	78	78°			4		
10 "								78						
11 "								78						
12 "								78				2		
1 P. M.	30·082	86	98	86	99	90	76	78			Calm.	0		
2 "	·082	86	90	86	93	86	76	78						
3 "	·082	86	84	85	87	81	76	78	83°					
4 "	·100	84	84	84	86	82	76	78						
5 "	·110	88	80	81	80	79	76	78						
6 "	·110	81	70	71·5	70·5	70	76	78					Clear.	b.
7 "	·110	81	70	71	70 ·	70	76	80						
8 "	·170	80	70	71	70	70	76	81						
9 "	·160	79	70	72	70	70	75	78						b. w.
10 "	·170	77	68	68	68	68	75	78						
11 "	·170	77	68	68	68	68	75	77						
12 "	·174	78	67	70	67	68	75	77						
Mean.	30·081	79·71	74·85	75·15	75·14	73·04	75·52	77·87	77					

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Nov. 5.														
1 A. M.	30·170	77°	66°	68°	66°	67°	75°	77°			E. N. E.	1	Clear.	b. w.
2 "	·174	76	66	67	66	67	75	77						
3 "	·170	75	66	67	66	67	74	78	69°					
4 "	·176	75	64	66	65	66	74	78			Calm. .	0		
5 "	·174	75	62	65	63	64	74	78						b.
6 "	·174	75	62	65	63	64	74	78						
7 "	·200	75	70	71	70	71	75	78						
8 "	·200	76	90	80	90	83	75·5	78						
9 "	·200	77	95	87	94	86	76	78	80°					
10 "	·200	80	99	94	98	89	77	79						
11 "	·200	81	105	99	104	94	77	79			N. E^{d}.	2	Hazy.	b. m.
12 "	·200	81	100	96·5	100	98	77	79						
1 P. M.	·160	82	96	95	97	90	77	79						
2 "	·160	82	95	94	97	89	77	78						
3 "	·150	88	86	88	88	84	78	78	80°					
4 "	·150	87·5	83	83	83	82	78	78						
5 "	·122	82	79	80	78	78	78	78				4	Cumulus	b. c. m.
6 "	·200	81	76	78	76	76	77·5	78						
7 "	·200	80	76	78	76	76	77	78					Cum. st.	c. m.
8 "	·222	80	76	77	76	76	76·5	78						
9 "	·222	80	76	77	76	76	76·5	78	76°					
10 "	·200	79	76	77	76	76	76	77						
11 "	·200	79	76	77	76	76	76·5	77				2		
12 "	·200	79	76	77	76	76	76·5	77						
Mean.	30·184	79·27	83·58	79·43	80	77·96	76·16	77·96	76·25					
Nov. 6.														
1 A. M.	30·172	79°	76°	77°	76°	76°	75°	77°			N. E^{d}.	3	Cum. st.	c. m.
2 "	·170	79	76	77	76	76	75	77						
3 "	·170	78	75·5	76	74	74	75	77	75°		N. E. by E.	5		c.
4 "	·150	78	74	76	75	75	75	77						
5 "	·150	78	75	76	74	74	75	77						
6 "	·150	77	76	76	75	75	75	77						
7 "	·160	77	79	80	78	78	75	78						
8 "	·200	79	79	80	79	78	76	78						
9 "	·200	79	79	79·5	80	79·5	76	78	78°				Cir. cum.	b. c.
10 "	·200	81	90	88	90	86	76	78			E. N. E.	6		
11 "	·170	82	88	91	89	86	77	78						
12 "	·170	82	88	90	89·5	85	77	78						
1 P. M.	·100	81·5	84	87	86	83	78	79						
2 "	·100	81·5	84	86	86	83	78	79						
3 "	·100	81	90	92	91	89	77	79	80°					
4 "	·100	81	83	85	82	79	77	79						
5 "	·100	81	80	79	78	78	77	79				4		
6 "	·106	80	79	78	76	76	76·5	79						
7 "	·150	78	74	76	74	74	76	79						
8 "	·150	78	74	75	74	74	76	78				2		
9 "	·150	78	74	75	74	74	76	77	76°		Calm.	0		
10 "	·150	77	74	76	72	74	76	78					Clear.	b. w.
11 "	·150	76	73	75	72	72	75·5	78						
12 "	·120	76	72	74	72	72	75	78			E. N. E.	1		
Mean.	30·147	79·08	79·02	80·18	78·85	77·93	76·04	78	77·25					

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Nov. 7.														
1 A. M.	30·110	76°	72°	74°	72°	72·5°	75°	78°			E. N. E.	1	Clear.	b. w.
2 "	·100	76	72	74	73	72	75	78						
3 "	·120	76	72	73	72	72	75	78	75°					
4 "	·130	76	72	73	71	72	75	78				2		
5 "	·140	76	72	73	71	72	75	78						b.
6 "	·130	76	72	73	71	72	75	78						
7 "	·130	76	80	82	82	79	75	78						
8 "	·150	76	86	85	86	80	76	78				4		
9 "	·176	76	92	89	96	86	77	78	80°					
10 "	·150	80	83	90	82	86	77	78						
11 "	·156	80·5	94	90	92	86	77	78					Cir. cum.	b. c.
12 "	·150	81	94	73	91	89	77	80			N. E.			
1 P. M.	·100	81	86	89	86·5	85	77	77				5		
2 "	·100	87	90	90	89	86	77	77						
3 "	·102	81	84	86	84	80	79	78	79°					
4 "	·100	81	82	81	82	80	77	77						
5 "	·100	80	79	80	79	79	76	77				2		
6 "	·100	80	77	78	78	78	78	77						
7 "	·177	79	76	76	74	75	76	77						
8 "	·130	78	74	74	74	74	75	77						
9 "	·130	78	74	74	74	74	75	77	77°					b. c. w.
10 "	·100	78	74	74	74	74	75	77				3		
11 "	·030	77	74	74	74	74	75	77						
12 "	·030	77	73	74	73	74	75	77						
Mean.	30·118	78·43	79·33	79·12	79·18	77·97	76	77·62	77·75					
Nov. 8.														
1 A. M.	30·030	77°	73°	74°	73°	74°	75°	77°			N. E.	3	Cir. cum.	b. c. w.
2 "	·020	77	73	74	73	74	75	77						
3 "	·010	77	73	74	73	74	75	77	72°					
4 "	·000	76	73	71·5	72·5	73	75	77						
5 "	·000	76	73	71·5	72·5	73	75	77						
6 "	·120	77	73	73	73	74	75	77						b. c.
7 "	·124	76	80	80	78	78	75	77						
8 "	·162	78	90	86	88	82	76	77						
9 "	·162	78	88	86	87	80	76	77	78°					
10 "	·168	78·5	93	87	90	82	76	77			E. N. E.	4		
11 "	·134	80·5	92	91	90	81	76	77						
12 "	·134	80·5	92	91	90	87	76	77						
1 P. M.	·106	81	90	91	90	84	77	76				5		
2 "	·100	80	88	90	88	89	76	76						
3 "	·100	80	86	87	86	84	76	76	81°				Cum. st.	c.
4 "	·100	80	88	87	86	83	75·5	76						
5 "	·110	81	80	79	78	76	75	76						
6 "	·120	80·5	74	75	74	74	75	76				4		
7 "	·124	78	74	75	73	74	75	76						
8 "	·150	77	73	74	73	73	75	76						
9 "	·150	77	71	72	71	71	75	76	74°					
10 "	·150	77	70	71	70	70	75	76				3		
11 "	·150	77	72	73	72	72	75	76						
12 "	·150	77	72	73	72	72	75	76						
Mean.	30·107	78·21	79·62	79·42	78·87	77·25	75·39	76·5	76·25					

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Nov. 9.														
1 A. M.	30·142	76·5°	73°	74°	73°	73°	75°	76°			E. N. E.	2	Cum. st.	c.
2 "	·142	76	73	74	73	73	75	76						
3 "	·142	76	73	74	73	73	75	76	74°					
4 "	·142	75·5	73	74	73	73	75	76				1		
5 "	·100	75	73	74	73	73	75	76						
6 "	·120	78·5	74	75	74	74	75	76						
7 "	·124	78	74	75	73	74	75	76						
8 "	·150	77	73	74	73	73	75	76				3		
9 "	·150	77	71	75	71	72	77	76	75°					
10 "	·150	77	70	71	70	70	75	76						
11 "	·150	77	72	73	72	73	75	76					Clear.	b.
12 "	·150	77	72	73	72	72	75	76				4		
1 P. M.	·130	80	90	89	90	86	76	76						
2 "	·100	80·5	90	89	90	86	76	76						
3 "	·106	80	84	88	86	86	76	76	79°				Cir. cum.	b. c.
4 "	·100	81	82	85	82	80	76	76						
5 "	·100	80	77	78	78	78	76	76						
6 "	·100	80	74	75	72	72	75	76						
7 "	·100	79	74	75	72	71	75	76						
8 "	·150	78	73	72	71	71	74	76				3		
9 "	·150	78	73	72	71	71	74	76	75°			1		
10 "	·150	78	71·5	71·5	71	71	73	76			Calm.	0		b. c. w.
11 "	·150	77	70	70·5	70	70	74	76			E. N. E.	2		
12 "	·150	76	69	70·5	69	70	74	76				1	Cum. st.	c.
Mean.	30·129	77·83	74·93	75·89	74·7	74·29	75·08	76	75·75					
Nov. 10.														
1 A. M.	30·150	77°	70°	71°	70°	71·5°	75°	76°			Calm.	0	Cum. st.	c.
2 "	·150	77	70	71	70	71·5	75	76						
3 "	·150	77	70	71	70	71·5	75	76	70°					
4 "	·150	77	67	68	68	68	75	76						
5 "	·150	76	77	68	68	68	75	76			South.	1		
6 "	·150	76	64	64	63	64	74	76			Calm.	0		
7 "	·150	76	74	75	72	74	75	74			N.W.	1		
8 "	·150	77	86	86	84	80	76	74			Calm.	0		
9 "	·150	78	90	84	88·5	82	76	75	74°					
10 "	·150	78	94	90	94	84	76	76						b.
11 "	·150	79	94	90	94	84	77	76			E. N. E.	2		
12 "	·150	79·5	94	90	94	84	77	78					Clear.	
1 P. M.	·100	82	89	89	89	82	77	79						
2 "	·100	82	90	90	90	84	77	78						
3 "	·090	82	94	90	97	88	77	78	81°			4		
4 "	·100	82·5	81	81	81	79	77	77						
5 "	·060	81·5	79	78·5	78	78	76	77						
6 "	·060	81	74	75	73	74	75·5	77						
7 "	·060	80	72	73·5	72	72	75	77						
8 "	·060	81	71·5	73	71	72	75	77						b. w.
9 "	·150	79	69	71	69	70	75	77	74°			3		
10 "	·150	79·5	69	70	69	70	75	77						
11 "	·150	79	69	70	69	70	75	77				2		
12 "	·150	79	68	70	68	68	75	77			Calm.	0		
Mean.	30·126	79	78·12	77·46	77·54	75·37	75·64	76·54	74·75					

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Nov. 11.														
1 A. M.	30·150	79°	68°	75°	68°	70°	79°	77°			E. N. E.	1	Clear.	b. w.
2 "	·100	78	68	69	67	68	76	77						
3 "	·080	78	68	68	66	68	73	77	71°		Calm.	0		
4 "	·090	78	68	68	68	66	74	77						
5 "	·090	78	68	68	67	67	74	77						
6 "	·090	76	69	70	68	69	75	77						b.
7 "	·100	76	74	78	74	75	75	77						
8 "	·100	76	74	78	74	75	75	77						
9 "	·108	78	82	83	84	82	76	77	76°					
10 "	·140	79	87	86	88	84	76	77			S. E^{d}.	2	Cir. cum.	b. c.
11 "	·150	80	90	89	90	86	77	78					Nimbus.	
12 "	·140	81	96	94	99	86	77	78						
1 P. M.	·090	83	94	78	96	83	78	78						
2 "	·090	83	90	92	93	86	78	78						c. p.
3 "	·100	83·5	87	88	89	84	78	78	82°					c. u.
4 "	·100	84	84	84	84	82	78	78						
5 "	·100	83	81	80	80	78	78	78				1		*
6 "	·120	83	76	80	79	76	77	78			S^{d}.			
7 "	·150	82	74	76	74	74	77	78			S. W.	1		
8 "	·150	81	74	76	74	74	77	78						
9 "	·130	81·5	74	75	74	74	77	78			Calm.	0		
10 "	·130	81	74	74	74	73·5	77	78						
11 "	·126	80	74	74	74	73	77	78						
12 "	·126	80	73	73·5	73	72	77	78						
Mean.	30·114	80·08	77·79	78·18	78·25	76·04	76·5	77·58	76·33					
Nov. 12.														
1 A. M.	30·150	80°	72°	77°	73°	73°	77°	77°			Calm.	0	Nimbus.	c.
2 "	·150	79	71	72	72	71·5	77	77						
3 "	·150	78	71	70	71	71	77	77	71°					
4 "	·150	78	70	70	70	70	76·5	77			N. E^{d}.	2		
5 "	·150	78	70	70	70	70	76	77						
6 "	·120	78	68	69	68	68	76	77					Cum. st.	b. c.
7 "	·130	78	68	69	68	68	76	77			Calm.	0		
8 "	·170	79	90	91	96	80	77	77						
9 "	·170	80	96	91	96	87	77	78	78°		S. E^{d}.	1		
10 "	·160	80	102	96	101	90	77	78			S. W^{d}.			
11 "	·150	81	100	97	102	91	78	78						
12 "	·140	81·5	98	95	99	90	78·5	78						
1 P. M.	·100	81	96	96	98	91	78	78			E. S. E.	3		
2 "	·100	81	94	92	94	94	78	78						
3 "	·112	81	88	89	89	86	78	78	79°					
4 "	·130	81	84	87	82	82	78	78			East.	5	Cir. cum.	
5 "	·130	81	83	81	82	80	78	78						
6 "	·150	79	72	75	72	74	78	78						
7 "	·160	78	72	74	72	72	78	77				3		
8 "	·166	78	72	73	72	72	78	77						b. c. w.
9 "	·150	77	72	73	72	72	76	77			Calm.	0		
10 "	·160	77	71	72	71	71·5	76	77						
11 "	·160	77	70·5	72	70	72	76	77						
12 "	·160	77	70·5	72	70	72	76	77						
Mean.	30·144	79·10	80·04	80·12	80	77·83	77·12	77·41	76					

* At 5 h. 55 m. P.M., a solar rainbow, alt. 30°.

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Nov. 13.														
1 A. M.	30·144	77°	71°	72°	70·5°	72°	77°	77°			Calm.	0	Cir. cum.	b. c. w.
2 "	·124	77	71	72	70·5	71	76	77						
3 "	·130	77	70	70	69	70	76	77	71°					
4 "	·140	77	69	70	68	69	76	77						
5 "	·136	77	71	71	71	70	76	77			E. N. E.	2	Nimbus.	c. u.
6 "	·120	77	72	73	71	71	77	77						
7 "	·164	77	79	78	79	76	77	77				6		
8 "	·168	78	87	80	83	80	77	77						
9 "	·200	79	79	76	76	74	77	77	79°					
10 "	·200	79	80	82	80	80	77	78						c. p. d.
11 "	·200	79	89	89	88	86	77	78					Cum. st.	c.
12 "	·150	80	92	90	92	86	78	78						
1 P. M.	·150	81	94	91	92	94	78	78				4		
2 "	·150	81	86	89	88	84	78	78						
3 "	·120	81	86	88	86	85	78	78	78°					
4 "	·150	82	82	85	82	80·5	78	78						
5 "	·176	80	75	76	74	75	77·5	78						c. p. d.
6 "	·176	80	75	76	74	75	77	78						
7 "	·180	79	75	75	74	76	77	78					Cir. cum.	b. c.
8 "	·200	79	75	76	76	75	77	78						*
9 "	·200	78	75	76	75	74	77	77	74°				Cum. st.	
10 "	·200	77	74	76	74	74	76	77						c. p. d.
11 "	·200	77	74	74	74	74	76	77						
12 "	·150	77	74	74	74	74	76	77						
Mean.	30·163	78·58	78·12	78·29	77·54	76·89	76·93	77·46	75·5					
Nov. 14.														
1 A. M.	30·150	77°	74°	75°	74°	73·5°	76°	77°			E. N. E.	5	Cum. st.	c. p.
2 "	·150	77	74	75	74	73	76	77						
3 "	·124	77	74	76	74	75	76	77	75°					
4 "	·140	77	74	75	74	74	76	77						
5 "	·170	76	74	75	74	74	76	77						
6 "	·180	76	75	76	74	74	76	77						
7 "	·180	76	76	76	76	75·5	76	77			N.E.byE.			
8 "	·180	78	77	77·5	77	76	76	77				4		†
9 "	·210	78	78	78	78	76	76	77	76°					
10 "	·220	78	80	85	84	82	77	77				5		
11 "	·200	78	78	80	80	78	77	77						
12 "	·175	78	88	89	88	85	77	77			E. N. E.	6		c.
1 P. M.								78						
2 "								78						
3 "								78	78°					
4 "	30·150	80	84	87	86	84	77	78						
5 "	·150	80	86	82	82	80	77	78				4		b. c.
6 "	·160	80	72	84	79	78	77	78						
7 "	·140		74·5	77	74·5	75	77	78						
8 "	·112		74	77	74	74	77	78						
9 "	·112		74	77	74	74	77	78	73°					b. c. w.
10 "	·136	77	74	75	74	74	76	78						
11 "	·210	77	74	75	73·5	74	76	78						
12 "	·210	77	74	75	73	74	76	78						
Mean.	30·164	77·61	76·59	78·88	77	76·33	76·43	77·5	75·5					

* At 7 h. P. M. 13th, three large and very bright meteors to the N. W.

† At 8 h. A. M. 14th, a solar rainbow, alt. 27°.

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Nov. 15.														
1 A. M.	30·190	77°	73°	73°	73°	74°	75°	77°			N.E.byE.	4	Cum. st.	b. c. w.
2 "	·176	77	73	73	72·5	73	75	77						
3 "	·169	77	73	73	72	72	75	77	73°					
4 "	·166	77	72	73	72	71	75	77				2		
5 "	·150	77	70	73·5	70	70	74	77						
6 "	·150	77	68	68	68	68	75	77						b. c.
7 "	·175	76	68	68	68	69	75	77						
8 "	·180	77	72	70	71	70	75	77					Nimbus.	c.
9 "	·200	78	84	82	84	86	77	77	75°					
10 "	·200	78	92	90	94	86	77	77						
11 "	·200	79	94	90	93	86	77	77						
12 "	·200	80	94	90	93	86	77	77						
1 P. M.	·156	80	89	90	90	86	77	77				1		
2 "	·156	80	89	90	90	86	77	77						
3 "	·156	80	83	84	83	81	77	77	82°					
4 "	·156	80·5	80	78	78	77	77	77						
5 "	·150	80	75	73·5	74	74	76	77						c. d.
6 "	·150	79	73	73·5	72	73	75	77						
7 "	·200	78	72	73	72	72	75	77					Cum. st.	c.
8 "	·200	77	72	72	71	71	75	77			Var.			
9 "	·200	77	72	72·5	71	71	75	77	72°		E. N. E.	3		
10 "	·200	76	71	72	71	70	75	77						
11 "	·200	76	70	72	70	70	75	77				7		c. q. r.
12 "	·200	76	70	72	70	70	75	77				2		c. d.
Mean.	30·178	77·91	77·04	76·91	76·77	75·5	75·66	77	75·5					
Nov. 16.														
1 A. M.	30·186	76°	70°	72°	70°	70°	74°	77°			Calm.	0	Cum. st.	c. p. d.
2 "	·184	76	70	71	70	69·5	74	77						
3 "	·200	76	70	71	70	69	74	77	73°					
4 "	·200	76	70	71	70	71	74	77						c. p.
5 "	·200	75	71	71	71	71	74	77						
6 "	·200	75	72	72	72	72	74	77						
7 "	·200	75	72	72	72	72	74	77						
8 "	·208	76	88	84	83	81	75	77						
9 "	·200	77	85	73	84	81	76	77	74°					
10 "	·200	77	80	80	80	77	76	77						
11 "	·200	77	81	80	80	78	76	77			N. E^{d}.	3		
12 "	·206	77	90	90	90	86	76	77				4		d.
1 P. M.	·200	78	90	90	91	86	77	77					Cir. stra.	
2 "	·200	78	88	84·5	88	83	77	77						b. c.
3 "	·150	77·5	82	81	82	78	77	77	76°					
4 "	·150	77	78	74	76	77	77	77				3		
5 "	·150	77	76	76·5	76·5	76·5	77	77					Cir. cum.	
6 "	·150	76	76	76·5	76	76·5	77	77						
7 "	·150	75	72	74	72	73	77	77				2		
8 "	·150	77	72	74	72	72	77	77						
9 "	·200	77	72	73	72	72	77	77			Calm.	0		b. c. w.
10 "	·150	76	72	72	72	72	76	77						
11 "			72	72	72	72	77	77						
12 "			72	73	72	72	77	77						
Mean.	30·182	76·43	76·71	76·14	76·31	75·31	75·83	77	74·33					

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc	Force.		
Nov. 17.														
1 A. M.	30·176	76°	72°	73°	72°	72°	76°	77°			Calm.	0	Cir. cum.	b. c. w.
2 "	·184	75·5	71	72·5	71	71·5	75	77						
3 "	·190	75	70	72·5	70	70	74	77	72°					
4 "	·182	75	70	72	70	70	74	77			E. N. E.	4		
5 "	·170	75·5	71·5	72	70·5	72	75·5	77						
6 "	·176	75	71	72	71	72	75	77						b. c.
7 "	·216	75	79	80	78	78	75	77			Calm.	0	Cum. st.	
8 "	·220	76	82	83	82	79	76	77						
9 "	·220	77	83	83	82	79	76	77	79°					
10 "	·220	77	84	85	80	82	76	77			E. N. E.	2		
11 "	·220	78	88	86	88	82	76	77						
12 "	·200	78	79	81	83	78	76	77						
1 P. M.	·200	78	86	83	85	79	76	77				5		
2 "	·200	78	86	82	84·5	78	76	77						
3 "	·200	79	80	79	80	76	77	77	75°					
4 "	·168	79	80	84	84	80	77	77			N.E.byE.	4		c. p. d.
5 "	·150	77	79	81·5	80	78	76	77						
6 "	·200	77	77	77	78	74	76	77						
7 "	·200	77	71	74	71	74	76	77					Cir. stra.	c.
8 "	·200	78	73	74	73	73	75	77						b. c.
9 "	·200	76	73	74	73	74	75	77	74°					
10 "	·200	76	73	75	73	74	75	77			N. E[d].	2	Clear.	b. w.
11 "	·200	76	73	74	73	73	75	77						
12 "	·200	76	73	74	73	72	75	77					Nimbus.	c. u.
Mean.	30·195	76·66	76·85	77·64	76·91	75·43	75·56	77	75					
Nov. 18.														
1 A. M.	30·200	76°	72·5°	73°	72·5°	72·5°	74°	77°			E. N. E.	3	Nimbus.	c. q. r.
2 "	·192	76	72	73	72	72	74	77				5		*
3 "	·186	76	71	72	71	71	74	77	71°			2		
4 "	·178	76	70	71	70	70	74	77						c.
5 "	·178	76	70	71	70	70	74	77						c. p.
6 "	·178	75	67	67	67	67	73	77			N.E.byE.	4		
7 "	·200	75	70	68	70	69	73	77					Cum. st.	
8 "	·210	75	71	73	71·5	70	74	77						
9 "	·250	76	74	76	74	75	75	76	72°					c. p. d.
10 "	·250	77	76	81	77	78	76	76						
11 "	·240	77	88	96	90	90	76	76						c.
12 "	·220	78	96	92	94	82	77	76			East.	3		
1 P. M.	·170	78	84	86	89	82	77	76						
2 "	·170	78	83	86	88	82	77	76						c. p. d.
3 "	·150	78	76	72	76	74	77	76	74°					
4 "	·160	78	99	95	100	93	77	76						
5 "	·200	78	79·5	77	78	76	77	76						c.
6 "	·200	77	74	74	73	73	76	76						
7 "	·200	77	73	76	73	74	76	76						
8 "	·200	76	73	74	73	73	76	76				2		c. p.
9 "	·200	76	73	74	73	73	76	76	73°					
10 "	·200	76	73	74	73	73	76	76			N. E.			c.
11 "	·180	76	73	74	73	73	76	76				1		
12 "	·200	75	72	73	72	72·5	75	76						
Mean.	30·196	76·5	76·25	77	76·66	75·21	75·42	76·33	72·5					

* 18th, at 1 h. 30 m. A. M., a lunar rainbow.

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Nov. 19.														
1 A. M.	30·196	75°	73°	73·5°	73°	73°	75·5°	76°			N. N. E.	2	Overcast.	o.
2 "	·182	75	73	72·5	73	72	73	76						d.
3 "	·178	75	72	73	73	73	74	76	74°					
4 "	·156	75	72	73	72	72	74	76						
5 "	·150	75	73	72	72	72	74	76			N. E.	4	Nimbus.	c. p.
6 "	·150	75	72	73	72	72	75	76						
7 "	·130	75	73	73	72	73	75	76						
8 "	·140	75	78	73·5	73	73	75	76						
9 "	·140	75·5	75	75	74·5	75	75·5	76					Cum. st.	
10 "	·200	76	76	78	76	76	76	76						
11 "	·200	77	84	84	84	80	77	76						
12 "	·175	78	84	82	82	78	77	76						
1 P. M.	·150	78	87	88	87	82	77	76						
2 "	·150	78	86	81	86	81	76	76				5		b. c.
3 "	·150	78	80	79	79	78	76	76	74°					
4 "	·150	78	79	79	78	77	76	76						
5 "	·150	78	76	76	76	75	76	76						
6 "	·152	77	76	76	76	75	76	76						
7 "	·150	77	75	75	74	74	75	76				2	Nimbus.	
8 "	·150	75	73	73	72	72	75	76						
9 "	·150	75	73	73	72	72	75	76						
10 "	·158	75	73	73	72	72	75	76				1		r.
11 "	·160	76	70	70	70	70	75	76						
12 "	·166	76·5	70	70	70	70	75	76					Cir. cum.	b. c.
Mean.	30·159	76·16	75·96	75·6	75·35	74·44	75·33	76	74					
Nov. 20.														
1 A. M.	30·166	76°	70°	70°	70°	70°	75°	76°			N. E.	1	Cir. cum.	b. c.
2 "	·124	76	70	72	70	72	75	76						
3 "	·124	76	69·5	72	69	72	75	76	72°					
4 "	·126	76	70	73	72	72	75	76						
5 "	·126	75	70	73	70·5	73	75	76			Calm.	0	Cum. st.	c. r.
6 "	·128	75	70	74	71	75	75	76						
7 "	·150	75·5	79	79	74	78	75	76						b. c.
8 "	·180	76	86	81	82	81	76	76						
9 "	·200	77	90	88	84	86	76	76	75°					
10 "	·200	77	97	93	96	89	76	76					Clear.	b.
11 "	·200	77	97·5	93	96	89·5	76·5	76						
12 "	·200	78	97	92	95	98	77	76						
1 P. M.	·150	78·5	85	83	84	81	77	76			E. N. E.	2		
2 "	·150	79	84	83	84	80	77	76						
3 "	·180	79	83	82	82	80	77	76	76°			4		
4 "	·160	79	80	80	82	78	77	76						
5 "	·150	79	76	76	76·5	75	77	76						
6 "	·150	78·5	76	75	76	75	77	76						
7 "	·175	77	72	75	72	74	77	76						
8 "	·170	77	72	73	72	72	77	76						b. w.
9 "	·170	76	72	73	72	72	77	76	71°			2		
10 "	·174	76	72	73	72	72	77	76						
11 "	·170	76	71·5	73	72	71·5	77	76						
12 "	·162	78	71	73	72	71	77	76						
Mean.	30·162	76·98	78·35	78·29	77·75	76·96	76·27	76	73·5					

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast head.		Direc.	Force.		
Nov. 21.														
1 A. M.								76°			E. N. E.	1	Clear.	b. w.
2 "								76						
3 "								76	70°					
4 "	30·160	76°	69°	71°	70°	69°	71°	76						
5 "	·162	76	69	70	70	69	75	76			Calm.	0		
6 "	·140	76	69	70	70	69	75	76						b.
7 "	·140	76	72	71	71	71	75	76						
8 "	·150	78	86	88	88	84	75	76						
9 "	·150	79	99	91	93	94	76	76	73°					
10 "	·150	79	98	87	98	88	76	76			N. E^{d}.	1		
11 "	·150	88	98	94	97	98	77	76						
12 "	·110	81	97	95	98	88	78	76						
1 P. M.	·100	81	97	94	99	95	77	78					Cir. cum.	b. c.
2 "	·100	81	93	92	92	86	77	78						
3 "	·100	82	86	89	87	82	77	81	73°					
4 "	·100	82	87	84	86	82	77	81						
5 "	·100	82	81	82	80	79	77	83			Calm.	0		
6 "	·100	80	73	72	72	72	77	77						
7 "	·140	79	72	72	72	71	77	76						
8 "	·150	79	72	72	71	70	76	77						b. w.
9 "	·150	78	72	71	71	70	76	79	73°					
10 "	·150	78	71	71	71	69	75	78					Clear.	
11 "	·124	78	70	70	70	69·5	75	78						
12 "	·100	77	69	70	68	70	75	78						
Mean.	30·129	79·33	80·95	79·81	80·66	78·35	75·9	77·33	72·25					
Nov. 22.														
1 A. M.	30·096	78°	67°	68°	67°	68°	75°	78°			Calm.	0	Clear.	b. w.
2 "	·084	77	66	68	66	68	75	78						
3 "	·072	77	65	67	66	68	75	77	70°					
4 "	·072	77	65	67	66	68	75	77						
5 "	·060	77	66	68	66	68	75	77						b.
6 "	·040	77	67	69	67	68	75	77						
7 "	·088	77	75	77	74	77	75	77			N. E^{d}.	1		
8 "	·100	77	84	92	90	78	76	77					Cirrus.	b. c.
9 "	·120	78	105	89	102	92	76	77	76°					
10 "	·124	79	106	89	102	92	76	77					Cumulus	
11 "	·122	81	106	84	103	92	76	77			E. N. E.	3	in hori-	
12 "	·106	84	102	89	103	91	76	77					zon.	
1 P. M.	·100	84	100	89	96	90	78	78						
2 "	·090	83	94	87	91	96	78	78						
3 "	·043	83	86	84	85	84	77	78	77°					
4 "	·032	82	84	83	83	82	77	78						
5 "	·020	81	77	76	76	76	77	78						
6 "	·020	80	74	74	73	73	76	78						
7 "	·020	79	74	74	73	73	75	78						
8 "	·048	79	72	72	72	72	75	78				1		
9 "	·060	78	72	72	72	72	75	78	72°					b. c. w.
10 "	·060	78	72	74	72	74	75	78						
11 "	·060	78	72	73·5	72	73	75	77						
12 "	·060	78	72	73	72	73	75	77						
Mean.	30·071	79·25	80·12	77·41	79·54	77·83	75·89	77·5	73·75					

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Nov. 23.														
1 A. M.	30·060	77°	72°	73°	72°	73°	75°	76°			E. N. E.	2	Cumulus	b. c. w.
2 "	·060	77	72	73	73	73	75	76					in hor.	
3 "								76	72°					
4 "								76						
5 "								76						
6 "	30·100	76	71	71	70	71	76	76						
7 "	·100	77·5	72	74	71	73	76	76						
8 "	·100	77	100	86	98	90	76	76				3		
9 "	·100	78	100	96	101	92	77	77					Clear.	b.
10 "	·100	78	104	103	100	98	77	77						
11 "	·100	80	98	87	96	98	77	77						
12 "	·090	80	88	84	86	83	77	77						
1 P. M.	·075	80	89	88	90	82	77	77					Cir. cum.	b. c.
2 "	·075	80	89	89	91	83	77	77				4		
3 "	·070	80	87	81	88	80	77	77	76°					
4 "	·074	80	78	79	78	77	77	77						
5 "	·074	79	76	76	76	75	77	77						
6 "	·074	78	73	75	73	74	76	77						
7 "	·070	77	73	74	72	73	76	77				3		
8 "	·120	77	73	73	73	72	76	77						
9 "	·120	77	72	72	72	72	76	76						b. c. w.
10 "	·120	77	72	72	72	72	76	76				1		
11 "	·120	77	70	70	70	70	76	76			Calm.	0		
12 "	·125	77	70	70	70	70	76	76						
Mean.	30·091	78·07	80·9	79·33	80·57	78·62	76·33	76·5	74°					
Nov. 24.														
1 A. M.								76°			Calm.	0	Cir. cum.	b. c. w.
2 "								76						
3 "								76	72°					
4 "	30·096	77°	70°	74°	70°	70°	76°	76						
5 "	·100	77	70	73	70	70	76	76						
6 "	·100	77	70	72	69	71	76	76			N. E.	2		
7 "	·100	77	74	77	74	76	76	76						
8 "	·140	78	83	85	83	80	76	76						
9 "	·150	78	87	84	90	84	76	76	79°				Clear.	b.
10 "	·150	79	94	90	94	86	76	76						
11 "	·150	80	96	93	93	89	77	76				3		
12 "	·120	80	84	91	93	87	77	77						
1 P. M.	·120	81	90	91	90	86	77	77				2		
2 "	·080	81	87	88	89	84	77	77						
3 "	·080	81	84	85	86	82	77	77	77°				Cum. st.	b. c.
4 "	·080	80	82	83	84	80	77	77						
5 "								77				3		
6 "	·080	79	74	76	78	76	76	77						
7 "	·074	78	74	76	76	76	76	77						
8 "	·124	77	74	75	74	74	76	77						b. c. w.
9 "	·150	77	74	75	74	73	76	77						
10 "	·150	77	74	75	74	73	76	77			Calm.	0		
11 "	·148	76·5	73·5	74	73·5	73	75	76						
12 "	·120	76	72	74	72	72	75	76						
Mean.	30·115	78·32	79·32	80·55	80·3	78·1	76·2	76·46	76°					

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Nov. 25.														
1 A. M.	30·126	77°	71°	73°	71°	71·5°	75°	76°			Calm.	0	Clear.	b. w.
2 "	·120	77	70	72	70	70	75	76						
3 "	·120	77	70	72	71	72	75	76	73°					
4 "	·120	77	70	72	70	72	75	76			N. E.	1		
5 "	·120	77	70	72	70	71	75	76			Calm.	0	Cum. st.	b. c.
6 "	·120	77	70	72	70	71·5	75	76					Nimbus.	
7 "	·120	77	72	73	72	72	75	76						
8 "	·150	77	73	72	72	72	75	76						d.
9 "	·150	77·5	73	74	74	73	75	76	74°					
10 "	·150	79	76	76	76	74	76	76						
11 "	·150	79	77	76	77	76	76	76						p. d.
12 "	·144	79	78	81	78	79	76	76						
1 P. M.	·100	79	72	72	71	71	76	76						
2 "	·100	79	74	74	73	77	78	76			N. E[d].	2		
3 "	·100	80	74	75	73	74	77	76	72°					
4 "	·080	79	75	75	76	74	76	76				1		
5 "	·080	78	74	73	74	73	76	76			Calm.	0		
6 "	·080	78	73	73	73	73	76	76						
7 "	·080	79	72	74	72	73	76	76			South.	1		
8 "	·080	79	72	73	72	73	76	76						
9 "	·080	78	72	73	72	73	75	76	70°			2		
10 "	·080	78	72	72	72	72	75	76			S. E.			
11 "	·086	77	71	71	71·5	71	75	76						
12 "	·096	77	70	70	71	70	75	76			East.	1		
Mean.	30·109	77·96	72·54	73·33	72·56	72 83	75·58	76	72·25					
Nov. 26.														
1 A. M.	30·096	77°	70°	69°	70°	68°	75°	76°			East.	2	Nimbus.	p. d.
2 "	·096	76·5	70	70·5	70	70·5	75	76						
3 "	·096	76	70	71	70·5	72	75	76	70°					
4 "	·081	76	70·5	71	71	71·5	74·5	76			Calm.	0		
5 "	·064	77	70·5	71·5	71	71·5	74·5	76			N. E[d].	1		
6 "	·050	76	70	72	70·5	71	75	76						
7 "	·058	76·5	71·5	72	72	72	75	76						
8 "	·100	77	84	89	82	88	75·5	76			E. N. E.		Stratus.	c.
9 "	·110	77·5	88	86	87	83	76·5	76	72°			5		
10 "	·120	78	94	87	91	84	76·5	76				7	Nimbus.	c. q.
11 "	·100	78	97	91	96	96	76·5	76						
12 "	·062	78	88	85	88	80·5	77	77				5		
1 P. M.	·020	77	84	87	86	83	77	77						
2 "	·000	77	83	85	85	80	77	77			N.E.byE.			c.q.p.d.
3 "	·000	77	71	71	71	70	76·5	77	74°					
4 "	·020	77	70	74	70	72	76	76				6		
5 "	·030	76	68	68	68	68	76	76						
6 "	·060	74	72	73	72	72	75·5	76						
7 "	·060	74	70	72·5	71	70	75	76			E. by N.	7		
8 "	·060	74	70	72	70·5	71	75	76						
9 "	·050	73	70	72	69	72	75	76	70°					
10 "	·050	73						76						
11 "								76						
12 "								76						
Mean.	30·062	76·13	76·26	76·62	76·26	75·52	75·66	76·16	71·5					

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Nov. 27.														
1 A. M.								76°			N. E.	5	Cir. cum.	b. c. w.
2 "	30·050	70°	68°	70°	70°	70°	73°	76						
3 "	·042	71	68·5	71	70	70	73	76	70°					
4 "	·030	72	69	71	70	70	74	76				7		
5 "	·026	72	69	71	70	70	74	76				8		b. c.
6 "	·026	72	69·5	71	70	70	73	76				7		
7 "	·050	73	74	76	74	74	73·5	76						
8 "	·070	73·5	88	83	88	76	74·5	76						
9 "	·070	74	90	79	87	80·5	75	76	72°			5	Clear.	b.
10 "	·068	75·5	94	88	90·5	84	75·5	76						
11 "	·068	76	94	90·5	92	86	76	76				4		
12 "	·068	77	95	93	94	88		76						
1 P. M.	·006	77	92	91	92	96	76	76				3		
2 "	·000	77	84·5	87	88	82	76	76						
3 "	·000	77	82	82	82	80	76·5	76	75°			4		
4 "	·000	78	82	80	78	78	76·5	76						
5 "	·000	78	76	77·5	78	75	76	76						
6 "	·050	77	70	71·5	70	70	75·5	76						
7 "	·050	76·5	69	71	70	70	75	76				2		b. w.
8 "	·100	75	68	69	68	68	75	76						
9 "	·100	75	68	69	68	68	75	76			Calm.	0		
10 "	·100	75	68	69	68	68	75	76						
11 "	·100	74·5	62	63	62	62	75	76						
12 "	·100	74	62	63	62	62	75	76						
Mean.	30·051	74·78	76·63	76·34	76·58	74·67	74·91	76	72·33					
Nov. 28.														
1 A. M.	30·100	74°	62°	63°	62°	62°	74·5°	76°			Calm.	0	Clear.	b. w.
2 "	·075	73	62	64	62	62	74	76						
3 "	·064	73	61	63	61	61·5	73·5	76	66°					
4 "	·056	73	60	62	60	61	73	76						
5 "	·056	73	61	62·5	61	61	73	76						b.
6 "	·050	73·5	61	62·5	61	60·5	73	76						
7 "	·073	73	79	84	79	81	74	76						
8 "	·100	74	84	90·5	82	80	74·5	77					Cir. cum.	b. c.
9 "	·100	75	103	92	100	97	75	77	79°		E. N. E.	1		
10 "	·100	76	106	89	106	92	75	77					Nimbus.	c. u.
11 "	·100	77	102	95	102	90	75	77						
12 "	·080	78	98	83	100	88	75	77						
1 P. M.	·075	79	96	86	99	88	76	77						p. d.
2 "	·072	80·5	94·5	92·5	98	88	76·5	77						
3 "	·074	79	86	75	88	76	76	77						
4 "	·074	80	79	79	78	78	76	77			Calm.	0		
5 "	·100	80	78	77	76	76	75·5	77					Cir. cum.	b. c.
6 "	·084	79	69·5	70	69	69	75	77						
7 "	·084	79	69	70	69	69	75	77						
8 "	·120	77	68	65	68	67	75	76						
9 "	·120	77	65	66	64	64	75	76						
10 "	·120	77	65	66	62	64	75	76						b. c. w.
11 "	·100	77	64	66	62	63	75	76						
12 "	·106	77	64	67	64	63	75	76						
Mean.	30·086	76·42	76·54	74·58	76·37	73·79	74·77	76·5	72·5					

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

1840.	Barom.	THERMOMETERS.								Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.		Direc.	Force.		
Nov. 29.														
1 A. M.	30·100	77°	64°	67°	64°	64°	75°	76°			Calm.	0	Cir. cum.	b. c. w.
2 "	·100	75·5	65	66	65	66	75	76					Nimbus.	
3 "	·103	75	65·5	67	65·5	67	74·5	76	66°		E. N. E.	2		d.
4 "	·106	75	66	67·5	66	67·5	74	76						
5 "	·110	75	66	68	66	68	73·5	76						
6 "	·116	75	66·5	68	66	67·5	73·5	76				3		p. d.
7 "	·150	74	66	66	64	66	73	76						
8 "	·180	74	66	66	66	66	73·5	76						
9 "	·180	74	77	67	77	68	74	76	68°			7	Cir. cum.	b. c.
10 "	·160	74	79	73	79	75	74	76						
11 "	·140	72	84	80	84	82	74	76						
12 "	·124	71·5	96	96	94	94·5	74	76			N.E.byE.	8	Clear.	b.
1 P. M.	·120	71·5	96	93	92	92	74	76						
2 "	·110	71	95	88	91·5	86	74·5	76						
3 "	·096	71	94·5	84	91	84	74·5	76	71°					
4 "	·062	71	94	82	90	80	75	76						
5 "	·062	71	78	74·5	76	73	73	76				6		
6 "	·100	71	70	69	69	69	70	76						
7 "	·140	70·5	69·5	69	69	69	70	76						
8 "	·120	70	69	69	68·5	68·5	70	76						b. w.
9 "	·120	70	68	69	68	68	70	76	69°		E. N. E.			
10 "	·124	70·5	68	69	68	69	69·5	76						
11 "	·124	70·5	68	69	68	69	69·5	76					Cum. st.	b. c. w.
12 "	·124	70	68	68·5	68	68·5	69	76				5		
Mean.	30·119	72·5	74·95	73·14	73·98	72·81	72·79	76	68·5					
Nov. 30.														
1 A. M.								75°			E. N. E.	4	Cum. st.	b. c. w.
2 "								75						
3 "								74	67°					
4 "	30·120	70°	69°	68°	69°	68°	75°	74						
5 "	·120	70	69	69	69	68	75·5	74						
6 "	·120	70	69	69	69	68	74·5	74				3		
7 "	·120	70	68	69	68	68	74	74					Clear.	
8 "	·150	71	70·5	71	70	70	74·5	74						b.
9 "	·140	72	86	78	85	80	74·5	74	73°					
10 "	·140	73	91	82	88	79	74·5	75						
11 "	·100	74	89	86	88	80		75						
12 "								75				4		
1 P. M.								75						
2 "								75			N. E.			
3 "	30·120	75						75	71°					
4 "								75						
5 "								75						
6 "								74						
7 "								74				3		b. w.
8 "								74						
9 "	30·100	70						74	68°					
10 "								74						
11 "								74				2		
12 "								74						
Mean.	30·123	71·5	76·44	74	75·75	72·62	74·64	74·42	69·75					

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

DAILY MEANS.

1840.	Barometer.	THERMOMETERS.							
		Att.	Black Wool.	Black Bulb.	White Wool.	No Wool.	Hole.	Water.	Mast-head.
Oct. 12th.	30·107	81·75	79·62	80·62	77·5	78·56	79-44	80·	74·66
" 13th.	30·114	81·63	81·25	82·27	81·38	80·18	80·89	80·5	77·33
" 14th.	30·125	81·4	81·92	81·55	81·52	80·5	81·33	80·	77·25
" 15th.	30·133	81·08	81·56	81·7	81·41	79·65	80·7	78·63	78·75
" 16th.	30·145	80·61	79·56	81·34	79·91	79·34	77·73	78·79	77·5
" 17th.	30·142	79·58	79·3	78·95	79·65	78·72	76·43	78·66	79·66
" 18th.	30·132	79·75	80·62	81·12	80·66	79·16	77·58	78·	74·
" 19th.	30.131	80·91	81·17	81·91	80·56	79·89	79·65	77·83	
" 20th.	30·097	80·52	77·67	78·15	77·52	77·45	79·43	78·12	
" 21st.	30·061	79·52	81·88	82·69	81·95	81·05	79·45	78·08	
" 22d.	30·053	80·39	79·62	78·45	79·37	77·19	78·78	77·62	
" 23d.	30·105	80·87	77·48	78·08	77·39	77·29	79·96	77·71	
" 24th.	30·068	80·27	72·92	74·61	72·5	73·37	78·93	78·	
" 25th.	30·046	79·69	78·25	78·58	78·12	76·73	74·43	77·96	
" 26th.	30·104	78·54	79·83	79·31	79·12	76·96	74·97	78·5	
" 27th.	30·147	77·69	78·65	79·54	78·23	76·6	75·81	78·33	
" 28th.	30·130	77·29	78·23	76·91	78·	74·77	76·29	77·93	
" 29th.	30·152	75·48	74·08	75·	74·33	73·91	75·46	77·92	74·5
" 30th.	30·115	74·87	73·	76·29	73·08	74·92	75·39	76·79	73·33
" 31st.	30·118	75·79	76·81	79·18	76·86	76·88	75·07	77·	
Nov. 1st.	30·087	76·54	77·39	78·02	78·23	76·18	75·47	77·16	74·
" 2d.	30·067	75·42	76·68	76·46	76·66	74·06	75·52	77·66	75·33
" 3d.	30·003	77·27	80·52	80·22	81·1	77·22	76·07	77·58	73·5
" 4th.	30·081	79·71	74·85	75·15	75·14	73·04	75·52	77·87	77·
" 5th.	30·184	79·27	83·58	79·43	80·	77·96	76·16	77·96	76·25
" 6th.	30·147	79·08	79·02	80·18	78·85	77·93	76·04	78·	77·25
" 7th.	30·118	78·43	79·33	79·12	79·18	77·97	76·	77·62	77·75
" 8th.	30·107	78·21	79·62	79·42	78·87	77·25	75·39	76·5	76·25
" 9th.	30·129	77·83	74·93	75·89	74·7	74·29	75·08	76·	75·75
" 10th.	30·126	79·	78·12	77·46	77·54	75·37	75·64	76·54	74·75
" 11th.	30·114	80·08	77·79	78·18	78·25	76·04	76·5	77·58	76·33
" 12th.	30·144	79·10	80·04	80·12	80·	77·83	77·12	77·41	76·
" 13th.	30·163	78·58	78·12	78·29	77·54	76·89	76·93	77·46	75·5
" 14th.	30·164	77·61	76·59	78·88	77·	76·33	76·43	77·5	75·5
" 15th.	30·178	77·91	77·04	76·91	76·77	75·5	75·66	77·	75·5
" 16th.	30·182	76·43	76·71	76·14	76·31	75·31	75·83	77·	74·33
" 17th.	30·195	76·66	76·85	77·64	76·91	75·43	75·56	77·	75·
" 18th.	30·196	76·5	76·25	77·	76·66	75·21	75·42	76·33	72·5
" 19th.	30·159	76·16	75·96	75·6	75·35	74·44	75·33	76·	74·
" 20th.	30·162	76·98	78·35	78·29	77·75	76·96	76·27	76·	73·5
" 21st.	30·129	79·33	80·95	79·81	80·66	78·35	75·9	77·33	72·25
" 22d.	30·071	79·25	80·12	77·41	79·54	77·83	75·89	77·5	73 75
" 23d.	30·091	78·07	80·9	79·33	80·57	78·62	76·33	76·5	74·
" 24th.	30·115	78·32	79·32	80·55	80·3	78·1	76·2	76·46	76·
" 25th.	30·109	77·96	72·54	73·33	72·56	72·83	75·58	76·	72·25
" 26th.	30·062	76·13	76·26	76·62	76·26	75·52	75·66	76·16	71·5
" 27th.	30·051	74·78	76·63	76·34	76·58	74·67	74·91	76·	72·33
" 28th.	30·086	76·42	76·54	74·58	76·37	73·79	74·77	76·5	72·5
" 29th.	30·119	72·5	74·95	73·14	73·98	72·81	72·79	76·	68·5
" 30th.	30·123	71·5	76·44	74·	75·75	72·62	74·64	74·42	69·75
Gen. Mean.	30·117	78·17	78·12	78·19	77·88	76·59	76·56	77·43	73·22

OBSERVATORY.

HONOLULU, SANDWICH ISLANDS.

RESULTS.

BAROMETER.

Mean of 50 days,	30·117
Highest mean,	30·196
Lowest mean,	30·003
Highest point,	30·250
Lowest point,	29·966

THERMOMETER WITH BLACK WOOL.

Mean of 50 days,	78·12°
Highest mean,	83·58
Lowest mean,	72·54
Highest point,	108
Lowest point,	60

THERMOMETER WITH WHITE WOOL.

Mean of 50 days,	77·88°
Highest mean,	81·95
Lowest mean,	72·5
Highest point,	106
Lowest point,	60

THERMOMETER IN HOLE.

Mean of 50 days,	76·56°
Highest mean,	81·33
Lowest mean,	72·79
Highest point,	92
Lowest point,	68

ATTACHED THERMOMETER.

Mean of 50 days,	78·17°
Highest mean,	81·75
Lowest mean,	71·5
Highest point,	94
Lowest point,	70

THERMOMETER WITH BLACK BULB.

Mean of 50 days,	78·19°
Highest mean,	82·69
Lowest mean,	73·14
Highest point,	103
Lowest point,	64

THERMOMETER WITH NO WOOL.

Mean of 50 days,	76·59°
Highest mean,	81·05
Lowest mean,	72·62
Highest point,	98
Lowest point,	60·5

TEMPERATURE OF WATER.

Mean of 50 days,	77·43°
Highest mean,	80·5
Lowest mean,	74·42
Highest point,	84
Lowest point,	74

THERMOMETER AT MAST-HEAD.

Mean of 39 days,	73·22°
Highest mean,	79·66
Lowest mean,	68·5
Highest point,	84
Lowest point,	66

U. S. SHIP VINCENNES.

HONOLULU, SANDWICH ISLANDS.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 1.												
1 A. M.			66°	74°				Var.	1	Clear.	b. w.	
2 "			66	74								
3 "			66	74	65°							
4 "			66	74				Calm.	0	Hazy.	b. m.	
5 "			66	74								
6 "			66	74								
7 "			67	74								
8 "			72	75								
9 "			74	75	72°	29·980				Clear.	b.	
10 "			74	75				N. Ed.	4			
11 "			78	75								
12 "			80	76								
1 P. M.			81	77				E. N. E.				
2 "			81	77					2			
3 "			80	77	77°	29·950						
4 "			75	77				Calm.	0	Nimbus	c. u.	
5 "			75	77								
6 "			75	77				S. Ed.	4			
7 "			75	77				Wd.	3		c. q. r.	
8 "			74	77							r. t. l.	
9 "			70	76	67°	30·000	Rain.	Calm.	0			
10 "			69	76								
11 "			68	76				E. N. E.	2	Cir.cum	b. c.	
12 "			68	76								Rain ·5 in.
Mean.			72·16	75·58	70·33	29·977						
Dec. 2.												
1 A. M.			66°	75°				E. N. E.	2	Over-cast.	r.	
2 "			66	74								
3 "			65	73	64°		Rain.					
4 "			65	73							o.	
5 "			66	72								
6 "			66	72					1	Cir.cum	b. c.	
7 "			67	72								
8 "			72	73				N. E.				
9 "			74	74	76°	30·010						Taking instruments on board.
10 "			76	74						Clear.	b.	
11 "			77	74								
12 "			77	74								
1 P. M.			79	75				E. N. E.	3			
2 "			79	75								
3 "			79	75	78°	30·000						
4 "			79	75					4			
5 "			77	75								
6 "			76	75								
7 "			70	74					3			
8 "			70	74							b. w.	
9 "			70	74		30·000		Calm.	0			
10 "			70	74								
11 "			68	74								
12 "			70	74								
Mean.			71·83	73·92	72·66	30·003						

Honolulu Harbour.

Honolulu Harbour.

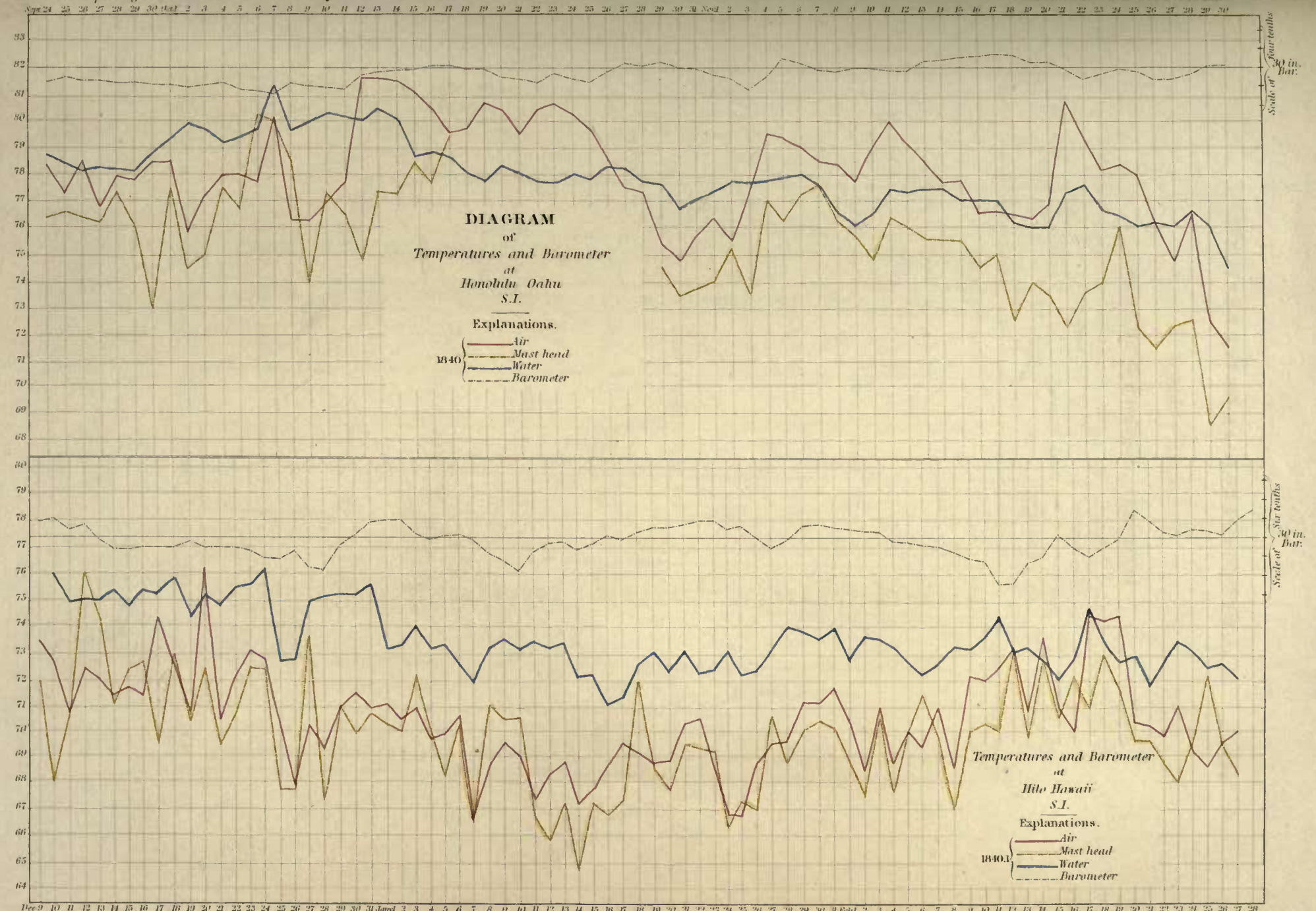


DIAGRAM
of
Temperatures and Barometer
at
Honolulu Oahu
S.I.
Explanations.
1840
Air
Mast head
Water
Barometer
Scale of Four tenths 30 in. Bar.
Temperatures and Barometer
at
Hilo Hawaii
S.I.
Explanations.
1840.1
Air
Mast head
Water
Barometer
Scale of Six tenths 30 in. Bar.

U. S. SHIP VINCENNES.

FROM HONOLULU TO HILO.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 3.												
1 A. M.			70°	74°				E. N. E.	1	Clear.	b. w.	
2 "			70	74								
3 "			69	74	68°			Calm.	0			
4 "			69	74								
5 "			69	74								
6 "			69	74							b.	
7 "			69	74				Var.	1			
8 "			70	75								
9 "			71	75		30·060						
10 "			74	75				E. N. E.	3			
11 "			76	75								
12 "			80	75								
1 P. M.			79	75								
2 "			79	75								Got under way, the Peacock and Flying-Fish in company.
3 "			77	75	76°	30·060			4			
4 "			75	75								
5 "	Honolulu Harbour.		71	75					5			
6 "			71	75								Steering to the southward and eastward.
7 "			74	75								
8 "			74	76							b. w.	
9 "			74	76	73°	30·060						Steering to the northward.
10 "			74	76								
11 "			74	76					3			Oahu and Molokai in sight.
12 "			73	76								
Mean.			72·95	74·92	72·33	30·060						
Dec. 4.												
1 A. M.			74°	76°				E. N. E.	2	Clear.	b. w.	Steering to the northward.
2 "			74	76								
3 "			73	76	72°			N.E.byE.	3			
4 "			73	76				East.				
5 "			73	76				E. by S.				
6 "			73	76							b.	The Peacock and Flying-Fish in company.
7 "			73	76				East.				
8 "			74	76					4			Steering to the northward and eastward.
9 "			76	76	79°	30·100						
10 "			76	76								
11 "			76	76								
12 "	22° 04′	156° 54′	76	76								
1 P. M.			76	76					5			
2 "			76	76				E. S. E.				
3 "			76	76	75°	30·000						
4 "			75	76				S. E.				
5 "			75	76					6			
6 "			75	76				E. S. E.				
7 "			75	76							b. w.	
8 "			75	76								
9 "			74	76	74°	30·050		S. S. E.				
10 "			74	76								
11 "			74	76								
12 "			74	76					5			
Mean.			74·58	76	75	30·050						

U. S. SHIP VINCENNES.

FROM HONOLULU TO HILO.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 5.												
1 A. M.			68°	72°				S. E.	4	Clear.	b. w.	Steering to the eastward.
2 "			68	72								
3 "			68	72	66°			S. E. by S.				
4 "			68	72								
5 "			75	72							b.	
6 "			75	72								
7 "			76	72				S. S. E.				
8 "			76	72				S. by E.				
9 "			76	72	75°	30·080			3			
10 "			76	74				S. S. E.				
11 "			76	74								
12 "	22° 52′	154° 28′	76	74								Water deep blue.
1 P. M.			77	75				South.		Cir.cum	b. c.	
2 "			77	75					4			
3 "			77	75	75°	30·000						
4 "			75	75								Steering to the S. W.
5 "			75	75								
6 "			74	75					2			
7 "			74	75						Clear.	b.	
8 "			74	75							b. w.	Steering to the E. S. E.
9 "			74	75	72°	30·120			3			
10 "			74	75								
11 "			74	75						Cum. st.	b. c. w.	
12 "			74	75								
Mean.			74·04	73·75	72	30·066						
Dec. 6.												
1 A. M.			75°	73°				South.	3	Cum. st.	b. c. w.	Steering to the southward and eastward.
2 "			75	74								
3 "			75	74	74°	30·000		S. by W.				
4 "			75	74								
5 "			75	76							b. c.	
6 "			75	76								
7 "			75	76								
8 "			75	76					2			
9 "			76	76	73°	30·100				Clear.	b.	
10 "			76	76								
11 "			78	76								
12 "	22° 12′	153° 15′	79	76								
1 P. M.			79	76								
2 "			79	76				S. S. W.	1			
3 "			79	76	75°	30·080						
4 "			78	76				S. by W.				
5 "			77	76								
6 "			75	76								
7 "			75	76							b. w.	
8 "			75	76				Calm.	0			
9 "			75	76	74°	30·200				Cir.cum	b. c. w.	
10 "			74	76								
11 "			74	76								
12 "			74	76								
Mean.			75·96	75·62	74	30·065						

U. S. SHIP VINCENNES.

FROM HONOLULU TO HILO.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 7.												
1 A. M.			74°	76°				Calm.	0	Clear.	b. w.	
2 "			74	76								
3 "			74	76	74°	30·120						
4 "			74	76						Nimbus	c. u.	
5 "			74	76							r.	
6 "			71	76								
7 "			71	76				E. S. E.	1			Course S. S. W.
8 "			71	76								Rain ·6 in.
9 "			74	76	74°	30·220		N. E.	2	Over-	o.	
10 "			74	76						cast.		
11 "			74	76								
12 "	21° 51′	152° 58′	75	76								
1 P. M.			76	76				N. N. E.		Clear.	b.	
2 "			75	76								
3 "			74	76	74°	30·120						
4 "			74	76								
5 "			74	76								
6 "			74	76					3			
7 "			75	76								
8 "			75	76						Cum. st.	b. c.	Course S. W. ½ S.
9 "			73	76	72°	30·200					b. c. w.	Saw a whale.
10 "			73	76								
11 "			73	76								
12 "			73	76								
Mean.			73·71	76	73·5	30·165						
Dec. 8.												
1 A. M.			74°	76°				N. N. E.	4	Cum. st.	b. c. w.	Course S. W. ½ S.
2 "			74	76								
3 "			74	76	72°	30·150						
4 "			74	76				N. E.				
5 "			74	76						Clear.		
6 "			72	76							b.	
7 "			74	76					3			Hawaii in sight to the S. W.
8 "			75	76								
9 "			76	77	75°	30·250						
10 "			76	77								Saw a large shoal of porpoises.
11 "			76	77				E. N. E.				
12 "	20° 24′	154° 45′	77	77						Over-	o.	
1 P. M.			75	77					4	cast.		
2 "			75	77								
3 "			75	77	76°	30·200			3			
4 "			74	76								
5 "			73	76								
6 "			73	76								
7 "			73	76								Steering to the S. E.
8 "			73	76				N. E. by E.		Stratus.	c.	under easy sail.
9 "			74	76	73°	30·220						
10 "			74	76								
11 "			73	76					1			
12 "			73	76								
Mean.			74·21	76·29	74	30·205						

U. S. SHIP VINCENNES.

FROM HONOLULU TO HILO.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 9.												
1 A. M.			74°	76°				South.	1	Nimbus	c. d.	Steering to the southward and eastward.
2 "			74	76					3			
3 "			74	76	72°	30·200			2			
4 "			73	76				Calm.	0			
5 "			72	76							p. d.	
6 "			71	76								Island of Hawaii in sight to the southward.
7 "			72	76								
8 "			73	76								
9 "			74	76	72°	30·200						
10 "			75	76								
11 "	Hilo Bay.		75	76				S^{d}.	1		p.	
12 "			75	76								
1 P. M.			74	76								
2 "			74	76								
3 "			74	76		30·200		Calm.	0			
4 "			73	76				E^{d}.	2			Anchored in Hilo Bay, in 5¼ fathoms water.
5 "			72	76								
6 "			72	76								
7 "			72	76								
8 "			73	76								
9 "			74	76	72°	30·220		S^{d}. & W^{d}.	1		r.	
10 "			75	76								
11 "			75	76						Cum. st.		
12 "			75	76					2		c.	
Mean.			73·54	76	72	30·205						
Dec. 10.												
1 A. M.			68°	75°				S^{d}. & W^{d}.	3	Cum. st.	b. c.	
2 "			68	75								
3 "			68	75	68°							
4 "			68	75								
5 "			68	75					1			
6 "			70	75						Clear.	b.	
7 "			72	75								
8 "			72	75				Calm.	0			
9 "			76	76	68°	30·230		N. E^{d}.	2			
10 "			76	76								
11 "			78	76								Sending instruments on shore.
12 "			78	76				Calm.	0			
1 P. M.			78	77								
2 "	Hilo Bay.		78	77				East.	1			
3 "			78	77	68°	30·200				Cir. stra.	b. c.	
4 "			77	77					3			
5 "			74	77				E. S. E.				
6 "			73	77					1			
7 "			72	77								
8 "			72	77				Calm.	0			
9 "			70	77		30·220						
10 "			69	76				S. W^{d}.	1			
11 "			69	76								
12 "			69	76								
Mean.			72·54	76·04	68	30·217						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 11.												
1 A. M.			69°	76°				W^d.	1	Nimbus	c.	
2 "			69	76								
3 "			70	76	68°	30·120						
4 "			70	76							r.	
5 "			67	76								
6 "			68	75								
7 "			67	75							c.	
8 "			67	75				Calm.	0	Cir.cum	b. c.	
9 "			71	75	72°	30·200						
10 "			74	76								
11 "	Hilo Bay.		74	76				Var.	1			
12 "			74	76								
1 P. M.			77	74							d.	
2 "			76	74								
3 "			73	74	74°	30·100						
4 "			71	74				Calm.	0			
5 "			70	74								
6 "			70	74								
7 "			70	75								
8 "			70	75				N. W^d.	2			
9 "			70	75	69°	30·180					c.	
10 "			70	75								
11 "			69	75								
12 "			69	75				W^d.				
Mean.			70·62	75·08	70·75	30·150						
Dec. 12.												
1 A. M.			71°	74°				S. W^d.	3	Cir.cum	c.	
2 "			71	74								
3 "			69	74	69°	30·170						
4 "			69	74					4			
5 "			65	74								
6 "			65	74								
7 "			65	74								
8 "			69	74					2	Clear.	b.	
9 "			77	75		30·180		Var.	1			
10 "			80	76								
11 "			80	76						Nimbus	b. c.	
12 "			80	76						over the		
1 P. M.			81	76						land.		
2 "	Hilo Bay.		81	76				S. W.	3			
3 "			81	76	83°	30·180						
4 "			78	76								
5 "			76	76				Calm.	0			
6 "			74	76							b. c. w.	
7 "			70	75				East.	2			
8 "			70	75						Clear.	b. w.	
9 "			69	75		30·180		N. E.	1			
10 "			67	75								
11 "			67	75								
12 "			67	75								
Mean.			72·58	75·04	76	30·177						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 13.												
1 A. M.			64°	75°				Var.	1	Cirrus.	b. c. w.	
2 "			64	75								
3 "			67	74	72°			Calm.	0			
4 "			67	74								
5 "			68	74								
6 "			70	74				S. W.	1			
7 "			72	74				Calm.	0			
8 "			75	74				E. S. E.	2	Clear.	b.	
9 "			79	75	78°	30·150						
10 "			77	75						Cum.	b. c.	
11 "	Hilo Bay.		77	76				East.				
12 "			77	76								
1 P. M.			77	76				E. by N.	3			
2 "			78	76								
3 "			80	76	79°	30·040		East.				
4 "			75	76						Cir.cum		
5 "			75	76					2			
6 "			73	75						Clear.	b.	
7 "			71	74				Var.	1			
8 "			69	73						Cum. st.	b. c.	
9 "			69	76	68°	30·100						
10 "			69	76				N. W.	2			
11 "			68	76								
12 "			68	76							b. c. p.	
Mean.			72·04	75·08	74·25	30·096						
Dec. 14.												
1 A. M.			69°	75°				N. W.	2	Cum. st.	b. c. p.	
2 "			67	75								
3 "			66	75	68°	30·020	Rain.					
4 "			66	75				W. N. W.	1		b. c.	
5 "			66	75								
6 "			67	75				Calm.	0			
7 "			69	75						Clear.	b.	
8 "			70	75								
9 "			76	76	76°	30·080				Cir. stra.	b. c.	
10 "			79	76				E. S. E.	2			Captain Wilkes and party left the ship to ascend Mauna Loa.
11 "			78	76								
12 "	Hilo Bay.		76	76						Cir.cum		
1 P. M.			79	76				S. E.	3			
2 "			80	78								
3 "			77	78	75°	30·020		S. S. E.				
4 "			77	76					2			
5 "			76	76					1			
6 "			72	75								
7 "			70	75				Var.				
8 "			67	75						Clear.	b.	
9 "			67	75	65°	30·080						
10 "			67	74				South.	2			
11 "			66	74								
12 "			66	74								
Mean.			71·37	75·42	71°	30·050						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 15.												
1 A. M.			65°	74°				South.	1	Clear.	b. w.	
2 "			65	74				S. S. W.				
3 "			65	74	65°	30·020						
4 "			66	74					2		b.	
5 "			66	75				S. W.				
6 "			66	75					3			
7 "			66	75					2			
8 "			67	75				Calm.	0			
9 "			76	75	*80°	30·080				Cum.	b. c.	*In the sun.
10 "			76	75				East.	2			
11 "	Hilo Bay.		76	75								
12 "			78	77					3			
1 P. M.			79	75								
2 "			78	75					4	Cir.cum		
3 "			78	75	76°	30·000						
4 "			78	75					3			
5 "			77	75				Calm.	0			
6 "			76	75								
7 "			74	75				S. W.	1			
8 "			71	75				Calm.	0			
9 "			71	75	69°	30·080				Cir. stra.		
10 "			70	75								
11 "			68	75								
12 "			68	75								
Mean.			71·66	74·92	72·5	30·045						
Dec. 16.												
1 A. M.			70°	75°				Calm.	0	Cir. stra.	b. c.	
2 "			70	75				West.	1			
3 "			69	75	76°	30·040						
4 "			69	75								
5 "			69	75				S. S. W.				
6 "			67	75								
7 "			68	75						Cir.cum		
8 "			70	75				S. W.		Clear.	b.	
9 "			74	75	73°	30·100						
10 "			73	76								
11 "	Hilo Bay.		73	76				Calm.	0			
12 "			75	76				Var.	1			
1 P. M.			78	76				Calm.	0			
2 "			78	76								
3 "			77	76	76°	30·020						
4 "			76	76						Cum. st.	b. c.	
5 "			73	76				West.	1			
6 "			73	76								
7 "			72	76				Calm.	0			
8 "			72	76								
9 "			67	76	66°	30·080						
10 "			67	76				West.	3			
11 "			67	74								
12 "			67	74								
Mean.			71·42	75·46	72·75	30·060						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 17.												
1 A. M.			78°	76°				West.	2	Cum. st.	b. c. w.	
2 "			77	76				S. W.	1			
3 "			77	76	65°	30·040						
4 "			77	76								
5 "			76	76				Var.		Cir.cum	b. c.	
6 "			75	76								
7 "			73	76				Calm.	0			
8 "			73	76								
9 "			72	75	70°	30·120		East.	2	Clear.	b.	
10 "			77	75				E. N. E.	4	Cum.	b. c.	
11 "			77	75								
12 "			77	75								
1 P. M.			77	75								
2 "	Hilo Bay.		76	75					3			
3 "			76	76	74°	30·020						
4 "			75	76					2			
5 "			75	76								
6 "			75	76						Clear.	b.	
7 "			74	74				Calm.	0			
8 "			72	74						Cir. stra.	b. c. w.	
9 "			70	74	68°	30·080		S. W.	1			
10 "			69	74					2	Clear.	b. w.	
11 "			68	74								
12 "			68	74								
Mean.			74·33	75·25	69·25	30·065						
Dec. 18.												
1 A. M.			68°	75°				S. W.	2	Clear.	b. w.	
2 "			67	75								
3 "			67	75	76°	30·040						
4 "			67	75								
5 "			69	75						Cum.	b. c.	
6 "			73	75				Calm.	0			
7 "			76	75				East.	3			
8 "			77	75								
9 "			77	76	75°	30·100		N. E.		Cir.cum		
10 "			77	76								
11 "			78	76								
12 "			78	76								
1 P. M.			78	78					2			
2 "	Hilo Bay.		78	78								
3 "			78	78	77°	30·040		Var.	1			
4 "			78	78								
5 "			78	78				E. N. E.				
6 "			77	77				North.	2			
7 "			68	77						Clear.	b w.	
8 "			67	76								
9 "			67	75	66°	30·040		N.W.	4			
10 "			67	75								
11 "			65	75								
12 "			65	74								
Mean.			72·5	75·96	73	30·055						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 19.												
1 A. M.			66°	70°				N. W.	3	Clear.	b. w.	
2 "			66	70				South.	4			
3 "			66	70	64°	30·040			1			
4 "			65	70					2	Cum.	b. c.	
5 "			64	73				Var.	1			
6 "			63	74								
7 "			64	74								
8 "			71	74								
9 "			74	74	75°	30·140						
10 "			78	75						Cir.cum		Sent a party with provisions, &c., to the party on Mauna Loa.
11 "	Hilo Bay.		78	76				North.	3			
12 "			76	76								
1 P. M.			77	76				N. E.				
2 "			77	76						Cir.stra.		
3 "			76	76	75°	30·080						
4 "			76	76								
5 "			72	76				Calm.	0	Clear.	b.	
6 "			71	76								
7 "			70	75						Cum. st.	b. c. w.	
8 "			69	75						Cum.		
9 "			69	76	68°	30·120		S. S. W.	1			
10 "			69	76					2			
11 "			68	74					1			
12 "			68	74					2			
Mean.			70·54	74·25	70·5	30·095						
Dec. 20.												
1 A. M.			66°	74°				S. W.	2	Cum. st.	b. c. w.	
2 "			66	74								
3 "			66	74	66°	30·080				Clear.	b.	
4 "			66	74				Calm.	0			
5 "			66	74								
6 "			67	74								
7 "			70	74								
8 "			71	75				Var.	1			
9 "			77	75	76°	30·120	76° 71°			Cirrus.	b.c.	
10 "			78	75								
11 "			80	76						Clear.	b.	
12 "			81	76				S. E.	2			
1 P. M.			82	76				E. S. E.	4			
2 "	Hilo Bay.		82	76				S. E.				
3 "			81	76	80°	30·020		S. S. E.				
4 "			80	76								
5 "			78	76				South.				
6 "			76	76								
7 "			74	76								
8 "			70	76				S. S. W.		Cir.cum	b. c. w.	
9 "			69	76	68°	30·040			3			
10 "			69	76				S. W.				
11 "			67	76					1			
12 "			64	76				S. S. W.	2			
Mean.			76·08	75·29	72·5	30·065						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 21.			°									
1 A. M.			67°	74°				S. S. W.	2	Cum. st.	b. c. w.	
2 "			67	74								
3 "			67	74	66°	30·040						
4 "			67	74								
5 "			67	74						Nimbus	c.	
6 "			67	74				Var.	1			
7 "			68	74								
8 "			68	74								
9 "			68	74	67°	30·080	73° 67°			Over-cast.	o.	
10 "			72	74								
11 "			74	76				S^{d}.				
12 "			75	76						Cir. stra.	c.	
1 P. M.			79	76								
2 "			79	76								
3 "	Hilo Bay.		78	76	78°	30·020	79° 69°					
4 "			78	76								
5 "			75	76				Var.				
6 "			72	76								
7 "			67	75				S. W.	2			
8 "			67	75								
9 "			67	75	66°	30·100						
10 "			67	75						Clear.	b. w.	
11 "			67	75								
12 "			67	75								
Mean.			70·42	74·92	69·25	30·060						
Dec. 22.												
1 A. M.			67°	75°				S. W.	2	Clear.	b. w.	
2 "			67	75					1	Stratus.	c.	
3 "			67	75	66°	30·040						
4 "			67	75								
5 "			67	75								
6 "			68	75				S. S. W.				
7 "			70	75						Cir. stra.	b. c.	
8 "			74	75								
9 "			75	75	73°	30·100	74° 69°	S. E.	3			
10 "			75	75								
11 "			75	77					4			
12 "			75	77								
1 P. M.			80	77								
2 "			80	77								
3 "	Hilo Bay.		78	77	76°	30·020						
4 "			77	76					2	Clear.	b.	
5 "			75	76								
6 "			74	75				Calm.	0			
7 "			71	75								
8 "			70	75							b. w.	
9 "			69	75	68°	30·080						
10 "			69	75								
11 "			69	75						Nimbus	b. c. w.	
12 "			69	75								
Mean.			72	75·5	70·75	30·060						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 23.												
1 A. M.			74°	75°				Calm.	0	Nimbus	c. w.	
2 "			74	75								
3 "			73	76	71°	30·040				Over-	o.	
4 "			71	76						cast.	o. p. d.	
5 "			69	75							o.	
6 "			69	75								
7 "			69	75								
8 "			69	75								
9 "			74	75	71°	30·060	72° 69°			Cir. stra.	c.	
10 "			72	75								
11 "			74	75								Sent a party with provisions to Mauna Loa.
12 "			75	75								
1 P. M.			78	76								
2 "	Hilo Bay.		78	76				Var.	1			
3 "			78	76	77°	30·000	Rain.				c. p.	
4 "			77	76							c.	
5 "			76	76				Calm.	0			
6 "			75	76							b. c.	
7 "			75	76							b. c. w.	
8 "			75	76								
9 "			75	76	71°	30·060		S. W.	1			
10 "			72	76						Clear.	b. w.	
11 "			70	76								
12 "			68	75								
Mean.			73·33	75·54	72·5	30·040						
Dec. 24.												
1 A. M.			68°	75°				S. W.	1	Clear.	b. w.	
2 "			68	75								
3 "			67	75	67°	30·000						
4 "			67	75				Calm.	0			
5 "			66	75							b.	
6 "			66	75								
7 "			67	75								
8 "			69	75				Var.	1			
9 "			75	76	76°	30·020	74° 69°					
10 "			80	79						Cirrus.		One of the parties returned from Mauna Loa.
11 "			80	79				Nd.		Clear.		
12 "	Hilo Bay.		80	79								
1 P. M.			80	77								
2 "			80	77								
3 "			79	77	78°	29·980				Cir. stra.	b. c.	
4 "			78	77								
5 "			77	77				Calm.	0		c.	
6 "			74	77								
7 "			74	76						Stratus.		
8 "			72	76								
9 "			71	76	70°	29·980						
10 "			71	76								
11 "			71	76								
12 "			71	76								
Mean.			72·96	76·29	72·75	29·995						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 25.												
1 A. M.			70°	75°				Calm.	0	Stratus.	c.	
2 "			70	75								
3 "			70	75	70°	30·000				Over-	o.	
4 "			70	75						cast.		
5 "			70	75								
6 "			70	75				N. N. W.	2		r.	
7 "			70	75								
8 "			71	75					4			
9 "			74	76	73°	30·000	Rain.		6		q. p.	
10 "			75	76								
11 "			76	77					7			
12 "	Hilo Bay.		75	77				North.				
1 P. M.			74	76								
2 "			71	76					8			
3 "			70	76	70°	29·960	Rain.					
4 "			69	76					6			
5 "			68	76								
6 "			68	76								
7 "			66	76						Cir. stra.	c.	
8 "			66	75								
9 "			66	75	65°	30·020		N. W.	5			
10 "			67	75								
11 "			68	75							b. c.	
12 "			69	75					4			
Mean.			70·12	75·54	69·5	29·995						
Dec. 26.												
1 A. M.			67°	75°				N. W.	5	Cir. stra.	c.	
2 "			67	75								
3 "			67	75	66°	30·000				Over-	o.	
4 "			67	75				Nd.		cast.		
5 "			66	75							o. r.	
6 "			68	72								
7 "			66	72				W. N. W.	4			
8 "			66	71								
9 "			66	71	65°	30·080	Rain.					
10 "			68	71					3			
11 "			71	71				S. W.				
12 "	Hilo Bay.		72	71							p.	
1 P. M.			70	71								
2 "			70	71								
3 "			72	73	73°	30·020	Rain.					
4 "			72	73						Cir. stra.	c.	
5 "			70	73								
6 "			68	73								
7 "			67	72				W. N. W.	2	Stratus.		
8 "			66	72								
9 "			68	72	67°	30·040						
10 "			66	75					1			
11 "			66	75				S. W.				
12 "			66	75					2			
Mean.			68	72·87	67·75	30·035						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 27.												
1 A. M.			67°	75°				S. W.	2	Cir. stra.	c.	
2 "			67	75								
3 "			66	75	66°	30·020						
4 "			66	75								
5 "			66	75								
6 "			66	75						Clear.	b.	
7 "			66	75								
8 "			66	75								
9 "			66	75	*83°	29·980	70° 67°	E. N. E.		Cum.	b. c.	* in the sun.
10 "			69	75								
11 "	Hilo Bay.		70	75								
12 "			76	75					3			
1 P. M.			77	76								
2 "			79	76								
3 "			79	76	78°	29·860			2			
4 "			77	76				N. E.		Clear.	b.	
5 "			76	75								
6 "			72	75					1	Cirrus.		
7 "			72	75				North.				
8 "			70	75					2		b. w.	
9 "			68	74	68°	29·920						
10 "			67	74				S. W.	1			
11 "			66	74						Cir. cum	b. c. w.	
12 "			66	74						Clear.	b. w.	
Mean.			70·42	75	73·75	29·945						
Dec. 28.												
1 A. M.			66°	74°				S. W.	1	Clear.	b. w.	
2 "			64	74								
3 "			64	74	63°	29·900						
4 "			64	74								
5 "			65	75								
6 "			65	75							b.	
7 "			66	75.								
8 "			66	75				Var.				
9 "			66	75	68°	29·940						
10 "			68	76				Calm.	0			
11 "			70	76								
12 "	Hilo Bay.		71	76				N^d.	1			
1 P. M.			71	76								
2 "			72	76						Cirrus.	b. c.	
3 "			74	76	70°	29·900						
4 "			74	76				Calm.	0	Cir. stra.	c.	
5 "			73	76								
6 "			74	76								
7 "			73	76								
8 "			74	76								
9 "			73	75	68°	29·980						
10 "			70	75				Var.	1		b. c.	
11 "			70	75				Calm.	0			
12 "			68	74				Var.	1	Cir. cum		
Mean.			69·21	75·25	67·25	29·930						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1840.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 29.												
1 A. M.			67°	75°				Var.	1	Cir.cum	b. c.	
2 "			67	75								
3 "			67	75	66°	30·020		S^{d}.				
4 "			66	74						Clear.	b.	
5 "			66	74								
6 "			67	74				Calm.	0	Cir. stra.	b. c.	
7 "			69	74								
8 "			73	74						Stratus.	c.	
9 "			76	76	75°	30·080						
10 "			76	76								
11 "			78	76								
12 "			78	76				N^{d}.	2	Over-	o.	
1 P. M.			75	76						cast.		
2 "			74	76								
3 "	Hilo Bay.		75	76	75°	30·080						
4 "			74	76								
5 "			73	76					1			
6 "			70	75								
7 "			70	75								
8 "			70	75								
9 "			69	75	68°	30·100		Calm.	0			
10 "			69	75								
11 "			68	75								
12 "			67	75						Cir. stra.	b. c.	
Mean.			71	75·16	71	30·070						
Dec. 30.												
1 A. M.			66°	74°				Calm.	0	Cir. stra.	b. c.	
2 "			66	74				S. W.	2	Clear.	b. w.	
3 "			66	74	65°	30·100						
4 "			66	74								
5 "			65	74							b.	
6 "			65	75				S^{d}.	1			
7 "			67	75								
8 "			70	75					2			
9 "			72	76	71°	30·180	72° 67°					
10 "			77	76								
11 "			77	76								
12 "	Hilo Bay.		76	76				Var.	1			
1 P. M.			80	76								
2 "			76	77				S^{d}.	2			
3 "			75	78	74°	30·120	74° 69°					
4 "			75	75								
5 "			74	75								
6 "			74	75						Cir.cum	b. c.	
7 "			74	75								
8 "			74	74				S. W^{d}.	1		b. c. w.	
9 "			74	75	69°	30·120						
10 "			70	75								
11 "			69	75								
12 "			68	75								
Mean.			71·5	75·16	69·75	30·130						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1840–41.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 31.												
1 A. M.			69°	75°				S. W.	1	Cir.cum	b. c. w.	
2 "			69	75								
3 "			67	75	68°	30·200						
4 "			67	75						Cirrus.		
5 "			67	75								
6 "			67	75				E. N. E.	2	Clear.	b.	
7 "			68	75								
8 "			69	75								
9 "			72	75	71°	30·250		N. W.	4	Cir. stra.	b. c.	
10 "			72	75								
11 "			74	76								
12 "			76	76								
1 P. M.	Hilo Bay.		77	77				N^{d}.	3			
2 "			75	76								
3 "			76	76	75°	30·120	73° 68°					
4 "			75	76						Nimbus	c.	
5 "			72	76					4			
6 "			72	76								
7 "			72	76								
8 "			72	75					3		c. p.	
9 "			69	75		30·200	Rain.	N. N. W.				
10 "			69	75					4			
11 "			69	75								
12 "			69	75					5		r.	
Mean.			71	75·42	71	30·192						
Jan. 1.												
1 A. M.			67°	74°				N. W.	6	Over-	r.	
2 "			67	74						cast.		
3 "			67	74	66°	30·220	Rain.					
4 "			67	74					4			
5 "			67	73				N. N. W.				
6 "			67	73								
7 "			67	73								
8 "			71	74						Cir. stra.	c.	
9 "			71	74	70°	30·120	70° 68°		3			
10 "			72	73					2			
11 "			70	73								
12 "			75	73						Nimbus		
1 P. M.	Hilo Bay.		78	73								
2 "			78	73				N. W^{d}.	1			
3 "			77	73	76°	30·240			2			
4 "			76	73								
5 "			76	73							c. p. d.	
6 "			75	73								
7 "			70	73								
8 "			69	73				N^{d}.				
9 "			70	73	69°	30·220	Rain.					
10 "			70	73						Cir.cum	b. c.	
11 "			69	73					3			
12 "			69	73								
Mean.			71·04	73·25	70·25	30·200						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 2.												
1 A. M.			68°	73°				N^{d}.	3	Cir. stra.	c.	
2 "			68	73						Nimbus		
3 "			67	73	66°	30·220	Rain.			Over-	r.	
4 "			66	73					4	cast.		
5 "			66	73				N. N. W.				
6 "			68	73								
7 "			68	73								
8 "			70	73								
9 "			73	72	70°	30·220	70° 68°			Cir. stra.	b.	
10 "			73	72							b. c.	
11 "	Hilo Bay.		72	74					3			
12 "			72	74								
1 P. M.			76	74						Nimbus	c.	
2 "			76	74								
3 "			75	74	75°	30·180			2			
4 "			76	74				N^{d}.			c. p.	
5 "			70	74								
6 "			68	74								
7 "			70	74								
8 "			69	74					4			
9 "			70	74	69°	30·200	Rain.				r.	
10 "			70	74				N. W.				
11 "			70	74								
12 "			70	74					5			
Mean.			70·5	73·5	70	30·205						
Jan. 3.												
1 A. M.			70°	74°				N. W.	4	Nimbus	c. p.	
2 "			70	74								
3 "			70	74	69°	30·160	Rain.					
4 "			70	74								
5 "			68	74				N^{d}.	3			
6 "			68	74								
7 "			70	74								
8 "			70	74							b. c.	
9 "			72	74	74°	30·230	70° 70°		4	Cir. stra.		
10 "			74	74								
11 "			75	74						Nimbus	c. p.	
12 "			75	74								
1 P. M.			75	74								
2 "			75	74				N. W^{d}.				
3 "	Hilo Bay.		72	74	77°	30·060	Rain.		5			
4 "			70	74				N^{d}.	6			
5 "			68	74								
6 "			68	74								
7 "			72	74				N. N. E.			c.	
8 "			72	74					7			A heavy swell setting into the bay.
9 "			70	75	69°	30·080		North.	9			
10 "			70	75					8			
11 "			71	74				N. by E.				
12 "			71	74					6			
Mean.			71·08	74·08	72·25	30·132						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 4.												
1 A. M.			68°	74°				North.	5	Nimbus	c.	
2 "			68	74								
3 "			65	73		30·100			4			
4 "			65	73				N.W.			c.p.	
5 "			65	72								
6 "			65	72								
7 "			66	71				N.N.W.				
8 "			69	72						Cir. stra.		
9 "			70	72		30·100						
10 "			72	72					5		c.	
11 "	Hilo Bay.		74	73								
12 "			74	73					4			
1 P. M.			73	75								
2 "			74	75					3			
3 "			73	75		30·120	74° 67°	Nd.		Over-		
4 "			73	74						cast.	u.	
5 "			71	74								
6 "			68	74					4			
7 "			70	73								
8 "			70	73						Cir. stra.		
9 "			69	75		30·100					c.	
10 "			70	75				N. by E.				
11 "			71	73					6			
12 "			71	73					7		c.q.	
Mean.			69·77	73·33		30·105						
Jan. 5.												
1 A. M.			67°	74°				N.N.E.	9	Stratus.	c.q.	
2 "			67	74								
3 "			66	73	66°	30·080	Rain.		8			
4 "			66	73								
5 "			66	73					5		r.	
6 "			67	73				North.				
7 "			68	73								
8 "			69	73				N.N.W.	4		c.u.	
9 "			69	73	68°	30·100						
10 "			72	73						Cir. stra.	b.c.	
11 "	Hilo Bay.		73	73								
12 "			74	73								
1 P. M.			75	74								
2 "			72	74					5		b.c.q.	
3 "			71	74	67°	30·080						
4 "			71	74				N.W.				
5 "			69	74					4		b.c.	
6 "			69	74								
7 "			69	74								
8 "			69	74							c.	
9 "			72	73	71°	30·180						
10 "			70	73				N.N.W.				
11 "			70	73								
12 "			70	73								
Mean.			69·62	73·42	68	30·110						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 6.												
1 A. M.			70°	72°				N. N. W.	4	Cum. st.	c.	
2 "			69	72				N. by E.				
3 "			70	72	70°	30·100	Rain.		3		c. p.	
4 "			70	72								
5 "			70	72				N. N. W.				
6 "			70	72						Cir. stra.		
7 "			70	72							c.	
8 "			72	72								
9 "			73	73	70°	30·180	71° 66°	N. E.		Cir. cum	b. c.	
10 "			76	73								
11 "			73	73								
12 "			77	73								
1 P. M.			72	73								
2 "	Hilo Bay.		74	73					4			
3 "			74	73	75°	30·100						
4 "			74	73								Several men returned from Mauna Loa, sick.
5 "			72	73				Nd.		Nimbus	c.	
6 "			70	73							c. p.	
7 "			69	73								
8 "			66	73					3			
9 "			66	73	66°	30·150	Rain.			Cir. stra.	c. p.	
10 "			66	73					2		b. c.	
11 "			66	73								
12 "			66	73								
Mean.			70·62	72·66	70·25	30·132						
Jan. 7.												
1 A. M.			68°	73°				Nd.	2	Cir. stra.	b. c.	
2 "			68	73								
3 "			68	73	67°	30·100				Over-cast.	o.	
4 "			68	73								
5 "			62	70				Var.	1		o. p.	
6 "			62	70								
7 "			63	70								
8 "			63	70								
9 "			66	70	67°	30·150	Rain.	N. N. E.	2			
10 "			66	72							r.	
11 "			69	72								
12 "			69	73				N. by W.				
1 P. M.			71	72								
2 "	Hilo Bay.		66	72								
3 "			67	72	67°	30·050	Rain.					
4 "			68	72								
5 "			68	72								
6 "			68	72								
7 "			68	72								
8 "			68	73				Var.	1	Cir. stra.	c.	
9 "			66	73	65°	30·080						
10 "			66	73								
11 "			66	73								
12 "			66	73								
Mean.			66·66	72	66·5	30·095						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Diree.	Force.	Clouds.	Weather.	Remarks.
Jan. 8.												
1 A. M.			65°	73°				Var.	1	Cir. stra.	b. c.	
2 "			65	73								
3 "			65	73	71°	30·040						
4 "			65	73								
5 "			65	73				Calm.	0	Over-cast.	o.	
6 "			65	73								
7 "			65	73								
8 "			65	73				Var.	1	Clear.	b.	
9 "			75	73	73°	30·020	74° 65°					
10 "			75	74								
11 "	Hilo Bay.		76	74								
12 "			76	74								
1 P. M.			76	75				N. E.	3			
2 "			76	75						Cir. stra.	b. c.	
3 "			75	75	74°	30·000						
4 "			71	74				Calm.		Nimbus	c. u.	
5 "			68	74					0			
6 "			67	74								
7 "			67	74				W^{d}.			c. p.	
8 "			67	73					1			
9 "			66	70	66°	30·000	Rain.					
10 "			66	70				S. W.				
11 "			65	73					3	Cir. stra.	c.	
12 "			65	73					1		b. c.	
Mean.			68·79	73·29	71	30·015						
Jan. 9.												
1 A. M.			64°	73°				Calm.	0	Cir. stra.	b. c.	
2 "			64	73								
3 "			64	73	73°	30·000						
4 "			64	73				S. W.	3			
5 "			63	73						Clear.	b.	
6 "			63	73								
7 "			63	73								
8 "			68	73								
9 "			71	74	70°	30·000		Calm.	0			
10 "			75	74				N. E.	1			
11 "	Hilo Bay.		76	75								
12 "			76	75								
1 P. M.			76	75					3			
2 "			76	75						Cir. stra.	b. c.	
3 "			76	75	73°	29·940			2	Stratus.	c.	
4 "			75	75								
5 "			73	74				S. W.	1			
6 "			73	74								
7 "			71	73								
8 "			69	73					2			
9 "			68	73	66°	29·980		West.		Clear.	b. w.	
10 "			67	73					1			
11 "			67	73								
12 "			67	73				Calm.	0			
Mean.			69·54	73·66	70·5	29·980						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1841.	Lat. North.	Long. West.	THERMOMETERS.			Bsrom.	Hygrom.	WIND.		Clouds.	Weather.	Remarks.
			Air.	Water.	Mast-head.			Direc.	Force.			
Jan. 10.												
1 A. M.			67°	73°				Var.	1	Clear.	b. w.	
2 "			66	73				Calm.	0			
3 "			66	73	66°	29·920						
4 "			66	73								
5 "			66	73								
6 "			66	73							b.	
7 "			66	73				Var.	1			
8 "			69	73				Calm.	0	Cir. stra.	b. c.	
9 "			74	74		29·910	74° 68°					
10 "			74	74								
11 "			75	74						Over-	o.	
12 "	Hilo Bay.		75	74						cast.		
1 P. M.			72	74				N'l.	1		r.	
2 "			73	74						Nimbus		
3 "			71	73	75°	29·880	Rain.		2			
4 "			70	73								
5 "			69	73							c. p.	
6 "			68	73					1			
7 "			68	73								
8 "			68	73						Cirrus.	b. c.	
9 "			67	73		29·950						
10 "			66	73						Clear.	b. w.	
11 "			65	73								
12 "			65	73				Calm.	0			
Mean.			68·92	73·25	70·5	29·915						
Jan. 11.												
1 A. M.			61°	73°				Calm.	0	Clear.	b. w.	
2 "			59	73								
3 "			57	72	56°	30·000						
4 "			57	72								
5 "			57	72				S. W.	1		b.	
6 "			57	74								
7 "			57	74					3			
8 "			66	74								
9 "			70	74	71°	30·020	67° 63°					
10 "			72	74					4	Cirrus.		
11 "			76	74				West.				
12 "	Hilo Bay.		76	74						Cir.cum	b. c.	
1 P. M.			76	74								
2 "			75	74				N. W.				
3 "			74	74	74°	30·000	70° 65°					
4 "			74	74					3			
5 "			72	74				N. N. W.		Nimbus		
6 "			76	74				North.		Cir. stra.		
7 "			69	74								
8 "			68	74				N. W.	1			
9 "			67	73	66°	30·080						
10 "			67	73								
11 "			65	73								
12 "			65	73				West.				
Mean.			67·21	73·5	66·75	30·025						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 12.												
1 A. M.			65°	73°				W. S. W.	1	Cir. stra.	b. c.	
2 "			64	73								
3 "			63	73	61°	30·060						
4 "			62	73					3			
5 "			64	73								
6 "			65	72								
7 "			66	73								
8 "			66	72				N. E.	2	Cir. cum		
9 "			69	73	66°	30·100	67° 64°					
10 "			74	74								
11 "	Hilo Bay.		75	74					3			
12 "			76	74								
1 P. M.			75	74					2			
2 "			75	75								
3 "			72	75	71°	30·020	73° 66°			Cirrus.		
4 "			74	75				N. N. E.		Clear.	b.	
5 "			73	75				North.		Cir. cum	b. c.	
6 "			69	75								
7 "			69	74					1			
8 "			66	73								
9 "			67	73	65°	30·100		S. W.	2	Over-cast.	o.	
10 "			64	73								
11 "			63	73						Cum. st.	b. c.	
12 "			62	73								
Mean.			68·25	73·54	65·75	30·070						
Jan. 13.												
1 A. M.			64°	73°				S. W.	2	Cum. st.	b. c.	
2 "			64	73								
3 "			64	73	63°	30·060						
4 "			64	73								
5 "			65	73								
6 "			67	73								
7 "			69	73				Calm.	0			
8 "			70	74				Var.	1			
9 "			67	74	66°	30·070	67° 62°	Calm.	0			
10 "			69	74						Stratus.	c.	
11 "			73	74								
12 "			71	74								
1 P. M.			73	74								
2 "	Hilo Bay.		73	74								
3 "			74	73	73°	30·100						
4 "			71	73						Over-cast.	o.	
5 "			70	73								
6 "			70	73						Cir. stra.	c.	
7 "			69	73								
8 "			69	73				N^{d}.	1			
9 "			69	73	67°	30·080						
10 "			69	73								
11 "			69	72					3		b. c.	
12 "			69	72				N. N. W.	4			
Mean.			68·92	73·21	67·25	30·077						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Masthead.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 14.												
1 A. M.			65°	71°				N. N. W.	5	Cum. st.	b. c.	
2 "			65	71								
3 "			65	71	63°	30·000			6			
4 "			64	71								
5 "			65	71					4			
6 "			66	71				N. W.				
7 "			66	71								
8 "			66	71								
9 "			69	72	61°	30·060	65° 63°				c.	
10 "			69	72					5			
11 "			69	73				N. N. W.				
12 "			69	73						Nimbus	c. u.	
1 P. M.			71	73								
2 "			71	73					4			
3 "			71	73	70°	30·000				Cir. stra.		
4 "			70	73							b. c.	
5 "			69	73				NWbyW	5			
6 "			68	71								
7 "			66	78					4			
8 "			66	78				N. W.				
9 "			66	78		30·060						
10 "			66	78					3			
11 "			63	72								
12 "			63	72						Clear.	b.	
Mean.			67	72·08	64·66	30·030						
Jan. 15.												
1 A. M.			68°	72°				N. W.	3	Clear.	b. w.	
2 "			68	72								
3 "			66	72	65°	30·040						
4 "			66	73						Cir.cum	b. c.	
5 "			65	73				North.				
6 "			66	73								
7 "			65	73					4	Cir. stra.		
8 "			65	73				N. N. W.		Cum. st.		
9 "			65	73	65°	30·100					c. p.	
10 "			67	73							b. c.	
11 "			70	71								
12 "			71	71					3	Nimbus	c. u.	
1 P. M.			72	72				N. E.				
2 "			73	72							c.	
3 "			73	72	72°	30·020	73° 66°					
4 "			71	72							c. p. d.	
5 "			71	72				North.				
6 "			70	72				N. N. E.				
7 "			68	72						Cir. stra.	b. c.	
8 "			68	72				N. N. W.	2			
9 "			65	72		30·100				Stratus.		
10 "			65	72						Cir. stra.		
11 "			64	72								
12 "			64	72								
Mean.			67·75	72·21	67·33	30·065						

Hilo Bay.

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Masthead.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 16.												
1 A. M.			64°	72°				N. W.	3	Cir. stra.	c.	
2 "			64	72								
3 "			63	70	61°	30·120						
4 "			66	70						Cum. st.		
5 "			66	70								
6 "			66	70				N. N. W.				
7 "			67	71					4			
8 "			71	71				N. E.				
9 "			69	71	68°	30·120	69° 65°			Nimbus		
10 "			71	71								
11 "	Hilo Bay.		72	72							c. p.	
12 "			72	72					3			
1 P. M.			74	72								
2 "			74	72						Cum. st.		
3 "			73	72	72°	30·080	Rain.	N. N. E.				
4 "			73	72								
5 "			72	72								
6 "			70	72								
7 "			69	72					2			
8 "			69	72				North.				
9 "			68	69	66°	30·120					b. c.	
10 "			66	69				N. N. W.				
11 "			67	69								
12 "			67	69								
Mean.			68·87	71	66·75	30·110						
Jan. 17.												
1 A. M.			68°	72°				N. N. W.	2	Cum. st.	b. c.	
2 "			68	72								
3 "			68	72	65°					Nimbus	c.	
4 "			68	72					1			
5 "			68	70							c. p.	
6 "			68	68					2			
7 "			66	69								
8 "			66	70				N. W.		Cir. stra.		
9 "			69	71	68°	30·120			3		b. c.	
10 "			73	71								
11 "			75	71					2			
12 "	Hilo Bay.		76	72						Cirrus.		
1 P. M.			76	72								
2 "			75	72				W. S.W.				
3 "			75	72	74°	30·080	70° 66°			Clear.	b.	
4 "			75	72								
5 "			75	72								
6 "			75	72								
7 "			70	72					4			
8 "			65	72						Cir.cum	b. c.	
9 "			63	72	62°			S. W.			b. c. w.	
10 "			63	72								
11 "			63	72						Clear.	b. w.	
12 "			63	72					2			
Mean.			69·62	71·39	67·25	30·100						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 18.												
1 A. M.			63°	71°				S. W.	2	Clear.	b. w.	
2 "			63	71								
3 "			62	71	71°							
4 "			62	71								
5 "			62	71				Calm.	0			
6 "			62	71							b.	
7 "			63	71				Var.	1			
8 "			63	71				Calm.	0			
9 "			73	74	71°	30·150	68° 65°					
10 "			78	74								
11 "			78	74								
12 "			74	74								A number of men returned from Mauna Loa.
1 P. M.			76	74				N. E^{d}.	3			
2 "	Hilo Bay.		76	74								
3 "			76	74	74°			E. S. E.	4	Cum.	b. c.	
4 "			76	74								
5 "			76	74				S. E.				
6 "			73	73								
7 "			70	73					2	Clear.	b. w.	
8 "			69	73								
9 "			67	73		30·120		Calm.	0			
10 "			66	73								
11 "			65	72				W^{d}.	1			
12 "			65	72								
Mean.			69·08	72·62	72	30·135						
Jan. 19.												
1 A. M.			66°	74°				S^{d}.	1	Clear.	b. w.	
2 "			66	74								
3 "			66	74	65°			S. W.	3			
4 "			66	74						Nimbus	c.	
5 "			66	74								
6 "			66	74								
7 "			67	73							c. p. d.	
8 "			67	73				Var.	2	Over-	o. p. d.	
9 "			70	74	70°	30·180	Rain.			cast.		
10 "			71	74				Calm.	0		d.	
11 "			72	74								
12 "			72	72							"	
1 P. M.			74	74								
2 "	Hilo Bay.		73	73							r.	
3 "			71	72	71°	30·100	Rain.	S. W.	2			
4 "			71	72								
5 "			69	73				West.				
6 "			69	73					1			
7 "			69	74								
8 "			68	70								
9 "			68	73	69°	30·180		N.W.	2	Cir. stra.	c.	
10 "			68	72								
11 "			68	73							b. c.	
12 "			68	73							c. n.	
Mean.			68·79	73·16	68·75	30·153						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 20.												
1 A. M.			64°	71°				N. W.	2	Over-	o.	
2 "			64	71						cast.	r.	
3 "			65	71	63°		Rain.					
4 "			67	70								
5 "			64	70				Calm.	0			
6 "			64	71							p.	
7 "			65	71								
8 "			68	71								
9 "			68	71	68°	30·200	Rain.					
10 "			69	71							r.	
11 "	Hilo Bay.		70	72								A party returned from Mauna Loa.
12 "			71	72								
1 P. M.			70	72						Stratus.	c.	
2 "			71	72								
3 "			72	74	71°	30·100						
4 "			73	74								
5 "			72	74						Cir. stra.		
6 "			72	74								
7 "			71	74						Over-	o.	
8 "			71	74						cast.		
9 "			71	74	69°	30·180						
10 "			71	74						Cir. stra.	c.	
11 "			70	73								
12 "			69	73				S. W.	1			
Mean.			68·83	72·42	67·75	30·160						
Jan. 21.												
1 A. M.			67°	72°				S. W.	2	Cir. stra.	c.	
2 "			67	72								
3 "			67	72	69°			W. S. W.	1			
4 "			67	72						Over-	o.	
5 "			67	73				W^{d}.		cast.		
6 "			68	73							r.	
7 "			68	73								
8 "			69	73								
9 "			70	73	70°	30·180	Rain.	S. W.			o. p.	
10 "			72	73								
11 "			73	73								
12 "	Hilo Bay.		73	73				Calm.	0		r.	
1 P. M.			79	74								
2 "			73	75				E^{d}.	4	Cum.	c.	
3 "			74	74	70°						b. c.	
4 "			74	74								
5 "			74	74						Cum. st.		
6 "			73	74					3		c. p.	
7 "			72	74					2	Over-		
8 "			72	73				Calm.	0	cast.		
9 "			71	73	69°	30·180	Rain.	S. W.	1			
10 "			71	73							r.	
11 "			70	74								
12 "			68	74				Calm.	0			
Mean.			70·46	73·25	69·5	30·180						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 22.												
1 A. M.			66°	70°				Calm.	0	Over-	r.	
2 "			66	70						cast.		
3 "			67	70	66°							
4 "			67	70							o.	
5 "			67	70				S.W.	2	Stratus.	c.	
6 "			67	70								
7 "			67	70								
8 "			70	71						Cir. stra.		
9 "			70	71	69°	30·200	73° 67°	Calm.	0	Clear.	b.	
10 "			76	73								
11 "			79	73								
12 "			76	73								
1 P. M.			77	75						Cum.	b. c.	
2 "			75	75				N.E.	2			
3 "			74	75	75°							
4 "			72	75					3			
5 "			72	74								
6 "			72	74					1	Clear.	b. w.	
7 "			72	74								
8 "			71	73				Calm.	0			
9 "			71	73	67°	30·200				Cir. stra.	b. c.	
10 "			68	72								
11 "			67	73				W^{d}.	1			
12 "			66	73						Over-	o.	
										cast.		
Mean.			70·62	72·37	69·25	30·200						
Jan. 23.												
1 A. M.			66°	71°				N.W.	1	Over-	o.	
2 "			66	71					2	cast.	r.	
3 "			66	71	66°							
4 "			66	70								
5 "			66	70				Var.	1			
6 "			67	72				Calm.	0		o.	
7 "			67	72						Cir. stra.	c.	
8 "			70	72				N^{d}.	2		b. c.	
9 "			71	73	71°	30·200	72° 68°					
10 "			72	73					4			
11 "			72	74								
12 "			72	74						Clear.	b.	
1 P. M.			72	74								
2 "			72	74				N.W.	3			Captain Wilkes returned from Mauna Loa with the remainder of the men.
3 "			72	74	73°							
4 "			73	74					2	Cum. st.	b. c.	
5 "			71	74								
6 "			70	73								
7 "			67	74				West.	3			
8 "			67	73								
9 "			67	73	66°	30·200		S.W.				
10 "			67	73					4			
11 "			65	73								
12 "			65	73					3			
Mean.			68·33	72·71	69	30·200						

Hilo Bay.

Hilo Bay.

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 24.												
1 A. M.			65°	72°				S. W.	2	Cir.cum	b. c.	
2 "			65	72								
3 "			67	73	65°			West.	1			
4 "			67	73					2	Over-	r.	
5 "			67	74						cast.		
6 "			66	74								
7 "			65	75				Var.				
8 "			65	75				Calm.	0			
9 "			69	75	67°	30·180	Rain.					
10 "			67	74						Cum. st.		
11 "	Hilo Bay.		67	74				N. E.	2	Nimbus	c. p.	
12 "			67	74								
1 P. M.			72	74					3			
2 "			72	74								
3 "			70	74	69°		Rain.		2			
4 "			69	74								
5 "			69	74				S. W.	4	Over-	o. p.	
6 "			68	74						cast.		
7 "			65	73							r.	
8 "			65	73					3			
9 "			65	70	64°	30·120	Rain.	Var.	1			
10 "			65	70				Calm.	0			
11 "			64	74								
12 "			64	74				N. W.	3			
Mean.			66·87	73·46	66·25	30·150						
Jan. 25.												
1 A. M.			64°	72°				N. W.	3	Over-	r.	
2 "			64	72						cast.		
3 "			64	70	63°		Rain.					
4 "			64	70				W. N. W.			p.	
5 "			64	70					2			
6 "			65	70								
7 "			67	70				N. N. W.	3			
8 "			67	70				N. N. E.				
9 "			68	73	75°	30·160	Rain.		4	Stratus.	c. m.	
10 "			74	73								
11 "			72	73						Cir. stra.		
12 "			72	73								
1 P. M.	Hilo Bay.		71	73					2		r.	
2 "			69	73				North.				
3 "			69	73	67°		Rain.		4			
4 "			68	73								
5 "			67	73				N. N. W.				
6 "			66	73								
7 "			65	73							c.	
8 "			65	73				Nd.	3			
9 "			65	72	64°					Cir.cum	b. c.	
10 "			65	73								
11 "			64	73								
12 "			64	73								
Mean.			66·79	72·12	67·25	30·160						

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 26.												
1 A. M.			63°	70°				Nd.	3	Cir.cum	b. c.	
2 "			63	70				N. W.	2			
3 "			63	70	61°							
4 "			63	70				West.	4	Clear.	b.	
5 "			63	70								
6 "			63	73					3			
7 "			65	73					2			
8 "			66	73								
9 "			69	73	68°			N. E.	3			
10 "			72	73								
11 "			75	74								
12 "			75	74					4			
1 P. M.			75	74								
2 "			75	74								
3 "			75	74	73°				2			
4 "			75	74								
5 "			75	74				Nd.				
6 "			73	74					3			
7 "			69	73				N. N. W.			b. w.	
8 "			69	72								
9 "			67	72	66°			North.	2			
10 "			67	72				N. W.				
11 "			67	72								
12 "			67	72				Calm.	0			
Mean.			68·92	72·5	67							
Jan. 27.												
1 A. M.			63°	73°				Calm.	0	Clear.	b. w.	
2 "			64	73								
3 "			65	73	65°					Nimbus	c. u. t. l.	
4 "			65	73				Wd.	1			
5 "			63	73							c. t. l.	
6 "			62	73							c. l.	
7 "			62	73				Calm.	0			
8 "			65	73								
9 "			74	73	74°			Nd.	1	Clear.	b.	
10 "			74	73				Calm.	0			
11 "			77	73								
12 "			78	74								
1 P. M.			78	74				Nd.	4			
2 "			78	74								
3 "			78	74	78°							
4 "			78	74								
5 "			76	74								
6 "			73	74					3			
7 "			68	74							b. w.	
8 "			68	74					4			
9 "			67	74	66°							
10 "			67	73					2			
11 "			65	71				Wd.	1			
12 "			65	71					2			
Mean.			69·71	73·25	70·75							

Hilo Bay. — None recorded. — Hilo Bay. — None recorded.

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 28.												
1 A. M.			63°	74°				W. S. W.	2	Clear.	b. w.	
2 "			63	74								
3 "			62	74	61°							
4 "			62	74					3			
5 "			62	74					4			
6 "			62	74							b.	
7 "			66	74					3			
8 "			73	74								
9 "			74	74	72°			Nd.	1			
10 "			76	74								
11 "			76	74								
12 "	Hilo Bay.		76	74		None recorded.		N. E.	4	Cum.	b. c.	
1 P. M.			76	75								
2 "			76	75								
3 "			75	75	74°							
4 "			73	74					3			
5 "			72	74								
6 "			71	74				Nd.	2			
7 "			70	74					1		b. c. w.	
8 "			70	74				Wd.	2			
9 "			70	74	68°					Clear.	b. w.	
10 "			69	73								
11 "			69	73								
12 "			69	73								
Mean.			69·79	74	68·75							
Jan. 29.												
1 A. M.			65°	73°				Wd.	1	Clear.	b. w.	
2 "			65	73								
3 "			65	73	63°							
4 "			65	73				Calm.	0			
5 "			64	73							b.	
6 "			64	73								
7 "			64	73								
8 "			68	73								
9 "			70	73	68°			Wd.	1			
10 "			70	73								
11 "			78	74				N. W.	3			
12 "			79	75								
1 P. M.			75	75				Nd.	4			
2 "	Hilo Bay.		76	75		None recorded.						
3 "			78	75	77°							
4 "			78	75				Calm.	0			
5 "			78	75						Cirrus.	b. c.	
6 "			76	75								
7 "			76	75						Cir. stra.	c.	
8 "			76	75				S. W.	3	Over-	o.	
9 "			74	75	72°					cast.		
10 "			74	74					4		r.	
11 "			66	73								
12 "			65	73					3			
Mean.			71·21	73·92	70							

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 30.												
1 A. M.			66°	73°				S. W.	3	Over-	r.	
2 "			66	73						cast.		
3 "			69	73	68°					Cum. st.	c. p.	
4 "			69	73						Stratus.		
5 "			69	73					2			
6 "			70	73								
7 "			70	73				Calm.	0		r.	
8 "			71	73								
9 "			72	73	71°							
10 "			72	73								
11 "			72	73				E^d.	2	Clear.	b.	Sending Meteorological Instruments to the Observatory.
12 "	Hilo Bay.		72	74		None recorded.						
1 P. M.			75	74								
2 "			75	74								
3 "			76	74	75°				3			
4 "			76	74								
5 "			74	74					2			
6 "			73	74						Cum.	b. c.	
7 "			74	74								
8 "			74	74					1			
9 "			69	74	68°			Calm.	0	Cir.cum	c.	
10 "			68	74				S. W.	2			
11 "			68	74								
12 "			68	74								
Mean.			71·16	73·54	70·5							

OBSERVATORY.

INSTRUMENTS USED ON SHORE.

Barometer.

Attached thermometer.

Thermometer, with bulb covered with lampblack.

" " " black wool.

" " uncovered.

Temperature of water, and thermometer at mast-head, observed on board U. S. Ship Vincennes.

Hygrometer.

OBSERVATORY.

HILO, ISLAND OF HAWAII.

1841.	Barom.	THERMOMETERS.						Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Jan. 31.												
1 A. M.						73°			S. W.	2	Cir. cum.	c.
2 "						73						
3 "		68°				73	66°					
4 "						73						
5 "						74			Calm.	0		
6 "						74						
7 "						74						
8 "						75			E^{d}.	3	Clear.	b.
9 "	30·120	75°	93°	96°	83°	75	74°					
10 "			89·5	100	83	75					Cum. stra.	b. c.
11 "			84	89	80	75				4		
12 "			87	88	81	75						
1 P. M.			89	91	84	75				2		
2 "			88	92	88	75						
3 "		79°	88	81	75	75	77°				Nimbus.	c.
4 "			78	78·5	74	75			S. W.	3		
5 "			70	71	70	75						c. p.
6 "			69	71	70	75						
7 "			66	69	69	73						
8 "						73				2		
9 "		65°	64	66	64	73	64°				Cir. stra.	c.
10 "			64		64	73			Calm.	0		
11 "			64	64	64	73					Overcast.	o.
12 "						73						
Mean.	30·120	71·75	78·14	81·26	74·92	74·04	70·25					
Feb. 1.												
1 A. M.						72°			Calm.	0	Overcast.	o.
2 "						72			S. W.	3		r.
3 "		66°				72	64°	Rain.				
4 "						72				2		d.
5 "						72					Cir. stra.	
6 "						72			E^{d}.	1		b. c.
7 "						72				3	Cum. stra.	
8 "			67°	68°	67°	72				1		
9 "		69°	69	69·5	69	70	68°					
10 "						71			N. W.	4		
11 "			79	75	75	73						
12 "			90	84	84	74						
1 P. M.			87·5	88	83·5	74						
2 "			76	80	80	74				3		
3 "		77°	83	85	79	74	75°					
4 "	None recorded.		74·5	76	74	74						
5 "			71	71	72	73			W. N. W.	2		
6 "			71	72	71·5	73						
7 "			72	73	73	73			S. W.			
8 "			70	71	70·5	73					Overcast.	o.
9 "		70°	71	71	70	75	68°	Rain.				o. r.
10 "			68	69	69·5	75						
11 "			67	68	68	75						
12 "			67·5	68	69	73						
Mean.		70·5	73·90	74·28	73·44	72·92	68·75					

OBSERVATORY.

HILO, ISLAND OF HAWAII.

1841.	Barom.	THERMOMETERS.						Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Feb. 2.												
1 A. M.			69°	68°	69°	72°			S. W.	2	Overcast.	r.
2 "			69	67	69	72						
3 "		66°	69	67	69	72	66°					
4 "			68	68	69	72			Calm.	0	Cir. stra.	
5 "			68	68	68	72						c.
6 "			68	68	68	73						
7 "						73						
8 "			71	70	69	73			S. W.	1	Stratus.	
9 "		70°	71	70	70	73	71°					
10 "			76	72	74	74					Cirrus.	b. c.
11 "			80	75	73	75						
12 "			74	71	71	75			South.			
1 P. M.			73	71	71	75			S. E.	3	Cir. cum.	c. p.
2 "			72	72	70	75						
3 "		69°	70	70	70	75	68°					
4 "			70	69	70	74				4		
5 "			70	68	70	74				3		
6 "			69	69	69	74			North.	4	Cum. stra.	
7 "			68	68	68	73						
8 "			66	67	67	74				2		
9 "		68°	66	67	67	74	65°				Overcast.	o.
10 "			66	66	68·5	74			S. W.	3		r.
11 "						75						
12 "						75						
Mean.		68·25	70·14	69·09	69·5	73·66	67·5					
Feb. 3.												
1 A. M.			66°	65°	66°	72°			S. S. W.	2	Overcast.	r.
2 "			67	66	67	72					Stratus.	c.
3 "		67°	67	69	69	72	66°		South.			
4 "			68	69	69	72				3		
5 "						72						
6 "			62	63	64	72			S. E.	4	Clear.	b.
7 "			73	70	67	72						
8 "			82	74	76	72						
9 "		72°	78	74	75	73	70°		S. S. E.			
10 "			90	92	83	73						
11 "			90	99	72	73			S. S. W.			
12 "			90	93	75	73				3		
1 P. M.			90	93	75	74						
2 "			91	93	83	75						
3 "		75°	82	89	79	75	75°					
4 "			73	80	75·5	75				1		
5 "			72	74	71·5	75			Var.			
6 "			70	71	71	75						
7 "			70	71	70	75						b. w.
8 "			68	70	69	75						
9 "		70°	62	61	67	75	72°		S. W.	2		
10 "			61	60	66	74						
11 "			61	60	66	74						
12 "			60	60	65·5	74						
Mean.		71	73·60	74·61	71·46	73·5	70·75					

None recorded.

OBSERVATORY.

HILO, ISLAND OF HAWAII.

1841.	Barom.	THERMOMETERS.						Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Feb. 4.												
1 A. M.			60°	60°	65°	73°			S. W.	3	Clear.	b. w.
2 "			62	61	61	73						
3 "		65°	60	63	63	73	64°					
4 "			61	63	65	73			West.	4	Cirrus.	b. c.
5 "			62	66	65	73			W. N. W.		Cir. cum.	
6 "			63	68	66	73						
7 "			64	64	63	73						
8 "			66	65	64	74					Cir. stra.	c.
9 "	30·080	73°	80	81	71	74	73°		N. N. W.		Cum. st.	
10 "				86	74	74			N. E.	2		c. p.
11 "			84	90	80	74						
12 "						74						
1 P. M.			71	71	70	74					Nimbus.	
2 "			71	70	71	74				3		
3 "		72°	72	70	72	74	70°		N. N. E.			
4 "			72	70	72	74				4	Cum. stra.	c. p. t.
5 "			69	68	72	73						
6 "			69	65	72	73			N. E.			
7 "			67	63	69	73						
8 "			66	61	68	73						c. p.
9 "		65°	64	60	66	73	64°					
10 "			62	63	69	73				3		
11 "			67	64	67	73						
12 "			62	63	67	73		Rain·8in.				
Mean.	30·080	68·75	67	67·48	68·35	73·37	67·75					
Feb. 5.												
1 A. M.			62°	62°	65°	72°			N. N. E.	3	Cum. stra.	c. p.
2 "			62	61	64	72						c.
3 "		64°	60	60	63	70	69°		North.			b. c.
4 "			53	57	61	70						
5 "			53	57	61	71					Clear.	b.
6 "			52	57	61	72			N. W.	4		
7 "			57	60	63	72						
8 "			62	62	63	73			North.			
9 "	30·080	71°	84	77	78	73	70°					
10 "			83	84	71	74			N. E.			
11 "			83	85	71	74				3		
12 "			85	90	80·5	74						
1 P. M.			86	91·5	81	74				2		
2 "			90	73	85	74						
3 "		75°	90	73	83	74	73°					
4 "			80	72	79·5	74						
5 "			72·5	73	72	74			Nd.	3		
6 "			68	69	68	73						
7 "			68	69	72	73					Cir. stra.	b. c.
8 "			61	61	66	72			N. N. W.	1		
9 "		69°	63	61	71	73	68°				Overcast.	o.
10 "			65	63	70	73						
11 "			64	61	68	72						
12 "			66	62	68	72					Cirrus.	b. c.
Mean.	30·080	69·75	69·56	68·35	70·21	72·71	70					

OBSERVATORY.

HILO, ISLAND OF HAWAII.

1841.	Barom.	THERMOMETERS.						Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	No Wool.	Water.	Mast head.		Direc.	Force.		
Feb. 6.												
1 A. M.			61°	60°	64°	70°			N. W.	1	Cir. stra.	b. c.
2 "			61	60	63	70						
3 "		65°	61	60	63	70	73°		N. N. W.	3		
4 "			61	60	62	70						
5 "			59	59	61	70				4	Nimbus.	c. u.
6 "			63	67	64	70						
7 "			65	69	65	70						
8 "			68	66	68	70				3		
9 "	30·070	69°	70	68	70	72	73°			2		
10 "			75	70	74	72			N. by E.		Cum. stra.	b. c.
11 "			93	88	87	72			N. N. E.			
12 "			94	101	88	72					Cumulus.	
1 P. M.			89	100	83	75						
2 "			82	80	79·5	75						
3 "		75°	73	78	75	75	73°				Clear.	b.
4 "			72	72	71	74						
5 "			71·5	70	70	74			Nd.	3	Cum. stra.	b. c.
6 "			71	69	70	74						
7 "			71	68	69	74						
8 "			71	68	69	73				1		
9 "	30·050	69°	69	68	69	73	68°		N. W.	2		
10 "			68	65	68	73					Stratus.	c.
11 "			69	66	69	73				1		
12 "			68	66	69	73		Rain·5in.				
Mean.	30·060	69·5	71·06	70·75	70·43	72·25	71·75					
Feb. 7.												
1 A. M.			62°	67°	66°	72°			Wd.	1	Cir. stra.	b. c.
2 "			62	68	66	72						
3 "		69°	68	69	66	72	67°					
4 "			63	68	66	72			N. W.	3		
5 "			63	69	67	72					Cum. stra.	
6 "			65	70	67	72				4		
7 "			67	71	66	72					Cumulus.	
8 "			69	70	69	72						
9 "	30·070	71°	80	83	72	73	74°					
10 "			85	86	73	74						
11 "			85	86	76	74						
12 "			98	114	90	74					Clear.	b.
1 P. M.			85	89	76·5	74						
2 "			90	97	76·5	74			West.			
3 "		75°	92·5	101	76·5	75	74°					
4 "			92	101	75·5	75				3		
5 "			78	91	74	74						
6 "			68	70·5	68	74			W. S. W.			
7 "			64	69	67	72						
8 "			62	65	65	72						b. w.
9 "	30·040	69°	61	60	64·5	69	64°			2		
10 "			60·5	60	62·5	69						
11 "			60	60	62·5	73						
12 "			60	60	61	73				3		
Mean.	30·055	71	72·5	76·85	69·73	72·78	69·75					

OBSERVATORY.

HILO, ISLAND OF HAWAII.

1841.	Barom.	THERMOMETERS.						Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Feb. 8.												
1 A. M.			60°	60°	59°	73°			W. S. W.	5	Clear.	b. w.
2 "			60	60·5	61	72						
3 "	30·000	60°	59	57	58	72	60°			3		
4 "			59	57	58	72						
5 "			56	55	57	72				2		
6 "			59	58	59	72			S. W.			b.
7 "			68	70	65	72						
8 "			79	90	79	72			W. S. W.			
9 "	30·040	75°	81	83	81	72	70°			3		
10 "			80	95	80	73			N. W.	4	Cirrus.	
11 "			91	98·5	86	73						
12 "			91	98·5	86	73						
1 P. M.			88	92	83	74				2	Clear.	
2 "			88	92	83	74			E^{d}.	1		
3 "	30·040	74°	93	100	85	74	70°					
4 "			83	91	79	74						
5 "			83	91	78	74			Calm.	0		
6 "			80	84	76	74						
7 "			76	75	74	73			Var.	1		
8 "			63	63	65	75						b. w.
9 "	30·000	65°	61	65	63	75	68°					
10 "			61	60	62	75			Calm.	0		
11 "			61	60	63	75						
12 "			64	61	65	75						
Mean.	30·020	68·5	72·66	75·69	71·04	73·33	67					
Feb. 9.												
1 A. M.			62°	60°	64·5°	72°			Var.	1	Clear.	b. w.
2 "			62	62	63	72						
3 "	30·000	64°	62·5	62	63·5	72	64°					
4 "			62	62	63·5	72			Calm.	0		
5 "			62	63	63	73						b.
6 "			64	64·5	63	73						
7 "			71	64	64·5	73						
8 "			72·5	64·5	64·5	73						
9 "	30·060	76°	84	102	74	73	76°					
10 "			88	99·5	74	74						
11 "			90	101	75·5	74			N. E.	1		
12 "			94	102	77	74				2		
1 P. M.			94	103	89	74						
2 "			94	103	89	74					Cirrus.	b. c.
3 "	29·900	81°	94	103	89	74	72°					
4 "			94	102·5	88	74				1		
5 "			92	100	86	74			Var.			
6 "			71	77	70	74					Clear.	b.
7 "			62	64	60	74						b. w.
8 "			64	64	64	74						
9 "	30·000	68°	62	62	63	74	68°		Calm.	0		
10 "			64	64	65	74						
11 "			62	63	64	73			Var.	1		
12 "			62	63	64	73						
Mean.	29·990	72·25	74·54	78·12	70·87	73·37	70					

OBSERVATORY.

HILO, ISLAND OF HAWAII.

1841.	Barom.	THERMOMETERS.						Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Feb. 10.												
1 A. M.			61°	63°	60°	73°			Nd.	1	Clear.	b. w.
2 "			60	62	59	73						
3 "	30·000	65°	63	64	60	73	62°					
4 "			63	63	64	73			Calm.	0		
5 "			64	64	64	73						b.
6 "			64·5	66	65	73						
7 "			66	66	66	73						
8 "			88	96	76	73			N. E.	2		
9 "	30·000	75°	92	90	87	73	76°				Cumulus.	b. c.
10 "						73						
11 "						74				3		
12 "						74				4		
1 P. M.			92	97	87	75						
2 "			92	98	89	75						
3 "	30·000	77°				75	77°					
4 "			82	84	80	75				3		
5 "						75						
6 "			72	72	72	75			Var.	1		
7 "			65	67	65	75						
8 "			69	68	68	74					Cir. cum.	c.
9 "	29·900	69°	69	68	69	72	66°					
10 "			65·5	67	66	72			Wd.	2		b. c. w.
11 "			66	66	69	72				1		
12 "			66	64	66	72					Clear.	b. w.
Mean.	29·975	72	71·59	72·89	70·11	73·54	70·25					
Feb. 11.												
1 A. M.			62°	62°	62°	75°			S. W.	2	Clear.	b. w.
2 "			61	60·5	62	74						
3 "	29·900	64°	62	62	62	74	62°					
4 "			62	62	62	74						
5 "			62	62	62	73				1		b.
6 "						73						
7 "						73				2		
8 "						73						
9 "	29·900	77°	92	97	85	74	76°		Var.	1		
10 "			100	101	92	74						
11 "			97	101	88	75			Calm.	0	Cumulus.	b. c.
12 "						75						
1 P. M.			101	101	95	75			N. E.	3	Cirrus.	
2 "			90	101	89	75						
3 "	29·800	80°	90	101	88	75	74°					
4 "			80	90	80	75				4		
5 "			80	90	80	75					Clear.	b.
6 "			80	83	80	75						
7 "			80	80	79	74				3		b. w.
8 "			64·5	66	63	74				1		
9 "	29·850	70°	65	66	63	74	68°		Calm.	0		
10 "			64	67	62	74			S. W.	1		
11 "			64	66	61	74						
12 "			62	63	60	74						
Mean.	29·862	72·75	75·92	79·45	73·75	74·21	70					

OBSERVATORY.

HILO, ISLAND OF HAWAII.

1841.	Barom.	THERMOMETERS.						Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Feb. 12.												
1 A. M.			60°	60°	62°	72°			W. S. W.	2	Clear.	b. w.
2 "			61	60	60	72						
3 "	29·800	67°	60	60	60	72	65°					
4 "			60	60	61	72			Var.	1		
5 "			61	62	63	72						
6 "			68	70	67	72			Calm.	0		b.
7 "			69	72	71	72						
8 "			85	94	87	73						
9 "	29·820	77°	88	95	88	74	76°		N. E.	3		
10 "			87	94	88	74				4		
11 "			84	92	86	74						
12 "			80	90	85	74						
1 P. M.			80	87	82	74				5		
2 "			86	86	88	74					Cir. cum.	b. c.
3 "	29·860	80°	78	80	82	74	78°					
4 "			77	77	76	74				4	Cumulus.	
5 "			78	80	78	74					Clear.	b.
6 "			76	74	74·5	74						
7 "			74	74	74	73				3		
8 "			73	75·5	74	74			Nd.			b. w.
9 "	29·980	70°	73	74	73	74	73°					
10 "			74	74	74	74			N. E.	1		
11 "			70	69	71	74						
12 "			70	70	70	74			Calm.	0		b. m.
Mean.	29·865	73·5	73·83	76·23	74·77	73·33	73					
Feb. 13.												
1 A. M.			65°	65°	65°	73°			Calm.	0	Clear.	b. m.
2 "			64·5	64	65	73			S. W.	1		
3 "		68°	64·5	64·5	65	73	68°					
4 "			62·5	61·5	62	73					Cirrus.	b. c.
5 "			62·5	61·5	62	73				2	Cir. stra.	c.
6 "			63	60	62	73						
7 "			64	65	64	73						
8 "			68	68·5	68	73					Nimbus.	c. p.
9 "	30·000	74°	70	71	72	73	71°		Var.	1		
10 "			76	76	74·5	74						
11 "			77	76·5	74·5	74					Overcast.	o.
12 "			70·5	72	70	74						
1 P. M.			70	73·5	70	74						
2 "			69	70	69	74						
3 "	29·920	70°	70	71	70·5	74	70°					o. m.
4 "			70	71	70	74						
5 "			69	70	69	74					Cir. stra.	
6 "			68	68	69	74						c.
7 "			67	67	69	74			Calm.	0	Stratus.	
8 "			67	67	69	74						
9 "	29·980	71°	66·5	68	69	74						
10 "			65	68	67	73			Var.	1		
11 "			63	65	63	73						
12 "			63	64	66	73			Calm.	0	Clear.	b.
Mean.	29·966	70·75	67·29	67·83	67·68	73·5	69·66					

OBSERVATORY.

HILO, ISLAND OF HAWAII.

1841.	Barom.	THERMOMETERS.						Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Feb. 14.												
1 A. M.			62°	63°	64°	71°			Calm.	0	Clear.	b. w.
2 "			62	62	63	71						
3 "	29·990	68°	61	62	62	71	68°					
4 "			61	63	62	71						
5 "			62	63	63	71						
6 "			63	62·5	64	71						
7 "			64	64	65	71						b.
8 "			76	72	73	71						
9 "	30·000	73°	86	88	81	72	73°		S. W.	1		
10 "			78	80·5	76	73						
11 "			92	100	92	73						
12 "			96	100	91	75			Calm.	0		
1 P. M.			87	82	82	76						
2 "			87	88	81	75					Cirrus.	
3 "	29·990	81°	86	90	85	75	79°					
4 "			98	99	81	75			N. E.	1		
5 "			74·5	74·5	74	75					Clear.	
6 "			74	74	74	75						
7 "			72	72	70	73						
8 "			66	64	69	73						b. w.
9 "	30·080	73°	65	65	65	73			Calm.	0		
10 "			62	64	65	73						
11 "			67	67·5	67	73						
12 "			65	66	66	73			S. W.	1		
Mean.	30·015	73·75	73·6	74·42	72·29	72·92	73·53					
Feb. 15.												
1 A. M.			65°	66°	66°	72°			S. W.	2	Clear.	b. m.
2 "			64	64·5	64	72						
3 "	30·090	66°	68	68	66	72	66°					
4 "			68	68	66	72						
5 "			68	68	66	72			Calm.	0		
6 "			67	66	65·5	70						
7 "			70	71	68	70					Cir. cum.	b. c.
8 "			74	74·5	72	70			N. E.	1		
9 "	30·180	72°	74	74·5	74	70	70°		North.			
10 "			84	89	82	71						
11 "			94	102	84	72			N. E.	3		
12 "			96	102	90	72						
1 P. M.			96	101	91	72				2	Cirrus.	
2 "			97	106	92	73						
3 "	30·080	76°	86	100	94	74	75°					
4 "			90	99	85	74						
5 "			79	79·5	74	74				1		
6 "			78	77	71	74						
7 "			70	71	68	72					Clear.	b.
8 "			66	66	67	72			Calm.	0		b. w.
9 "	30·120	70°	68	67	68	72	72°					
10 "			66	66	68	72						
11 "			65	67	68	72						
12 "			66	67	69	72			S. W.	1		
Mean.	30·117	71	75·72	78·33	74·1	72	70·75					

OBSERVATORY.

HILO, ISLAND OF HAWAII.

1841.	Barom.	THERMOMETERS.						Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Feb. 16.												
1 A. M.			58°	58°	59°	72°			S. W.	2	Clear.	b. w.
2 "			54	54	55	72						
3 "	30·050	61°	54	54	56	73	60°					
4 "			51·5	52	51	73					Cirrus.	b. c.
5 "			51·5	52	52	70			Calm.	0		
6 "			55	55	55·5	70						
7 "			64	64	62	70						b.
8 "			78	84	79	70						
9 "	30·100	71°	80	99·5	80·5	70	78°		N^{d}.	1		
10 "			80	88	80	72				3		
11 "			80	100	81	73					Clear.	
12 "			92	101	84	75						
1 P. M.			99	102	86	75				4		
2 "			93	99	87	75						
3 "	29·980	75°	97	101·5	89	75	78°					
4 "			96	98	88	75						
5 "			94	95·5	83	74						
6 "			92	94	81	74				3		
7 "			90	92	81	74			N. W.			b. w.
8 "			69	69	69	74	73°			4		
9 "	30·050	73°	69	69	69	74						
10 "			68	68	68	74			W N. W.			
11 "			68	69	68	74						
12 "			69	69	69	73						
Mean.	30·045	70	75·08	78·64	72·21	72·96	72·25					
Feb. 17.												
1 A. M.			63°	65°	62°	73°			West.	3	Clear.	b. w.
2 "			62	64	61	73						
3 "	30·000	71°	65	69	63	73						
4 "			67	68	67	73						
5 "			69	69	67	73			S. W.	2		b.
6 "			68	69	68	74						
7 "			76	68	68	74				1		
8 "			84	96	80	74						
9 "	30·050	76°	84	89	80	74			East.	2		
10 "			98	100·5	92	75						
11 "			96	102	90	75				3		
12 "			98	100	94	75						
1 P. M.			97	104	94	75						
2 "						75						
3 "	29·980	81°				75	74°					
4 "						75				2		
5 "						75						
6 "			75	75·5	74·5	76			Calm.	0		
7 "			71	74	72	74						b. w.
8 "			66	76	72	74			Var.	1		
9 "	30·040	70°	65	65	67	74	68°					
10 "			64	64	66	73			S. W.	1		
11 "			64	64	66	73			West.			
12 "			64	65	67	73			S. W.			
Mean.	30·017	74·5	74·8	76·35	73·52	74·08	71					

OBSERVATORY.

HILO, ISLAND OF HAWAII.

1841.	Barom.	THERMOMETERS.						Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Feb. 18.												
1 A. M.			64°	67°	67°	72°			S. W.	1	Clear.	b. w.
2 "			66	68	68	72						
3 "	30·040	67°	62	64	64	72	66°					
4 "			62	64	64	72			W. S. W.	2		
5 "			62	62	64	72			West.	1		
6 "			60	60	61	73						b.
7 "			68	77	67·5	74			W. S. W.			
8 "			79	96	76·5	74			N. E.	3		
9 "	30·050	79°	86	103	87	75	78°				Cumulus.	b. c.
10 "			95	103	90·5	75						
11 "			95·5	103·5	90	75						
12 "			95·5	105	90·5	75				4		
1 P. M.			96	104	91	75						b. c. m.
2 "			82	86	82	75						
3 "	30·020	80°	85	89	83	75	80°					b. c.
4 "			93	101	86	75						
5 "			78	80	76	75					Cir. cum.	
6 "			75	75	71	75				2		b. c. w.
7 "			71	72	74	75					Cirrus.	
8 "			70	71	72	73			Var.	1		
9 "	30·100	70°	71	72	73	73	69°					
10 "			70	71	71	73			North.			
11 "			70	70	70	73			S. W.			
12 "			68	68	68	73			West.			
Mean.	30·052	74	76	80·48	75·29	73·79	73·25					
Feb. 19.												
1 A. M.			68°	68°	69°	72°			S. W.	1	Clear.	b. w.
2 "			65	67	67	71						
3 "	30·120	69°	64	64	65	71	69°					
4 "			63	62	64	71				2		
5 "			66	67	67	71				3		b.
6 "			64	66	66	71			South.	2		
7 "			73·5	73	69·5	71						
8 "			88	93	82	71						
9 "	30·140	74°	90	99	84·5	72	76°		S. E.	4	Cum. stra.	b. c.
10 "			91·5	101	86	73						
11 "			96	104	91·5	74				2	Cir. stra.	c.
12 "			94	101	89·5	74						
1 P. M.			95	99	88·5	74			E. S. E.			
2 "			97	102	87·5	74					Overcast.	o.
3 "	30·100	81°	91	96	87·5	75	71°					o. p. d.
4 "			80·5	83	79·5	75						
5 "			79	84	78·5	75				1		
6 "			76	77	76	74					Cir. stra.	b. c.
7 "			72	73	74	74			Calm.	0		
8 "			72	72	73	74					Cirrus.	
9 "	30·180	73°	68	67	70	73	71°				Clear.	b. w.
10 "			65	64	67	72						
11 "			63	64	67	72			S. W.	1		
12 "			68	67	68	72						
Mean.	30·135	74·25	76·64	79·71	75·73	72·75	71·75					

OBSERVATORY.

HILO, ISLAND OF HAWAII.

1841.	Barom.	THERMOMETERS.						Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Feb. 20.												
1 A. M.			64°	65°	65°	73°			West.	2	Clear.	b. w.
2 "			70	71	71	73				3		
3 "	30·200	68°	70	75	71	72	67°		N. W.	4	Cir. stra.	c.
4 "			68	70	70	72						
5 "			74	70	70	72						
6 "			65	69	69	72			N. N. E.	3		
7 "			69	71	70	72					Overcast.	o.
8 "			80	80	75·5	73						
9 "	30·280	73°	78	80	75·5	73	71°					
10 "			79	83·5	77	73				4		p.
11 "			85	89	79·5	75						
12 "			88·5	96	83	75						
1 P. M.			85	92	81	75						
2 "			83	90	80·5	74						
3 "	30·220	71°	78	80	76	74	69°		N^{d}.			o.
4 "			74	75	74	75				3	Cir. stra.	c.
5 "			72	73	72	74						
6 "			71	71	71	74						
7 "			68	68	68·5	73					Stratus.	
8 "			68	70·5	70·5	73			N. W.			
9 "	30·280	69°	68	69	69	72	71°					
10 "			68	70	69	72				2		
11 "			68	69	69	71			W^{d}.			
12 "			64	68	67	70						
Mean.	30·245	70·25	73·23	75·62	72·66	73	69·5					
Feb. 21.												
1 A. M.			64°	65°	67°	69°			W^{d}.	2	Stratus.	c.
2 "			64	64	62	69						
3 "	30·220	66°	64	65	64	69	66°					
4 "			63	64	61	69						
5 "			64	66	65	69						
6 "			64	65	65	69					Cir. stra.	b.c.
7 "			65	67	66	69				4		
8 "			68	69·5	68	69						
9 "	30·280	69°	74	72	73·5	69	67°					
10 "			76	80	75	69					Cirrus.	
11 "			81	84	80	69						
12 "			84	93	83	75						
1 P. M.			91	93	84	75				3		
2 "			84	92	83	75					Clear.	b.
3 "	30·180	76°	82	88	79	75	75°					
4 "			84	84	78	75						
5 "			72	75	73	75						
6 "			70	71	71	75						
7 "			64	65	68	74						b. w.
8 "			65	64	68	74						
9 "	30·200	70°	65	64	68	74	70°			2		
10 "			70	68	68	73						
11 "			68	67	67	73						
12 "			64	64	67	73						
Mean.	30·220	70·25	71·25	72·94	70·98	71·87	69·5					

OBSERVATORY.

HILO, ISLAND OF HAWAII.

1841.	Barom.	THERMOMETERS.						Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Feb. 22.												
1 A. M.			64°	66°	69°	72°			W.S.W.	3	Clear.	b. w.
2 "			64	65	65	72						
3 "	30·120	65°	64	64	65	72	64°					
4 "			62	64	64	70				2		
5 "			62	63	63	73			S. W.			b.
6 "			64	62	63	73						
7 "			69	72	66·5	73				1		
8 "			78·5	79·5	74	74						
9 "	30·180	73°	80	85	77·5	74	73°				Cir. cum.	b. c.
10 "			95	102	86·5	74			Calm.	0		
11 "			87	93·5	82	74						
12 "			91	95	86	74						
1 P. M.			82·5	86	87·5	74						
2 "			80·5	83	78·5	74						
3 "	30·080	76°	83	84·5	79·5	74	72°				Cirrus.	
4 "			83·5	87	81	75			Ed.	1		
5 "			75	76	74·5	75					Cum. stra.	c.
6 "			74	70	79	74						
7 "			71	64	68	74				2		
8 "			63	62	65	74			S. W.	1		
9 "	30·180	65°	60	62	62	72	66°				Clear.	b. w.
10 "			60	66	62	71				2		
11 "			58	58	60	69						
12 "			60	60	60	68			Wd.			
Mean.	30·140	69·75	72·12	73·73	71·6	72·87	68·75					
Feb. 23.												
1 A. M.			54°	54°	60°	73°			Wd.	1	Clear.	b. w.
2 "			54	54	60	73						
3 "	30·180	62°	55	65	60	73	60°				Cirrus.	
4 "			58	62	62	72			Calm.	0	Overcast.	o.
5 "			58	58	57	72						
6 "			58	60	60	73						
7 "						73						
8 "			68	71	69	74			N. E.	3	Cum. stra.	c.
9 "	30·140	78°	87	91·5	78	74	70°					
10 "			92	101·5	83·5	74				4		
11 "			80	84	77·5	74						
12 "			78	80	76	74						b. c.
1 P. M.			80	85	77	74						
2 "			81	85	78·5	74						
3 "	30·080	76°	77	80	75·5	74	75°				Cir. cum.	
4 "			75	77	74	74						
5 "			68	71	68·5	74				2		
6 "			68	69	68	74						
7 "			64	70	68	73			N. W.		Cirrus.	b. c. w.
8 "			64	63	67	73			West.	1		
9 "	30·100	68°	64	63	67	73	67°		South.			
10 "			62	63	65	73			S. W.	2		
11 "			62	63	64	73						
12 "			62	61	62	73						
Mean.	30·125	71	72·56	70·91	68·41	73·37	68					

OBSERVATORY.

HILO, ISLAND OF HAWAII.

1841.	Barom.	THERMOMETERS.						Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Feb. 24.												
1 A. M.			60°	62°	63°	72°			Sd.	2	Cir. stra.	b. c. w.
2 "			64	64	64	72						
3 "	30·120	66°	64	64	65	72	65°		S. W.	3	Overcast.	o.
4 "			64	63	65	72						
5 "			63	63	66	73			Wd.			r.
6 "			62	61	64	73				1		
7 "			64	64	64	73						
8 "			66	66	65·5	73			S. E.		Cir. cum.	b. c.
9 "	30·180	70°	70	70	70	73	69°					
10 "			76	71·5	74	74						
11 "			75·5	76·5	75·5	74			S. S. W.	2		
12 "			79	81	76	74						
1 P. M.			79·5	83	77	74						
2 "			74	75·5	73	74					Cum. stra.	c.
3 "	30·100	75°	71·5	75	71·5	74	74°					
4 "			70	72	71	74						
5 "			69	70	70	74				3		
6 "			68	68	68	74						
7 "			66	68	69	74						
8 "			64	66	66	74			S. W.	2		c. p. d.
9 "	30·180	66°	64	66	66	72						
10 "			64	66	65	72						c.p.d.l.
11 "			64	66	65	72						
12 "			62	64	64	72		Rain·3 in.				
Mean.	30·145	69·25	66·81	68·58	68·58	73·12	69·33					
Feb. 25.												
1 A. M.			63°	65°	64°	70°			S. W.	2	Cum. st.	c. l.
2 "			64	63	65	70						
3 "	30·100	66°	64	63	65	70	66°					c.p.d.l.
4 "			64	63	65	70						c. l.
5 "			64	63	65	70					Overcast.	
6 "			62	65	64	70				3		r.
7 "			66	66	65	72						
8 "			66	67	67	72			Wd.	2		p. d.
9 "	30·180	66°	74	73	75	72	74°					
10 "			74	73	75	73						
11 "			75	77	73·5	74			N. W.	3		c.
12 "			80	84	77·5	74				2		
1 P. M.			86	88	81	74						
2 "			86	86	88	74						
3 "	30·080	76°	81	86	78	74	75°					c. p.
4 "			80	79	77	74						
5 "			78	73	72	74			Var.	1		
6 "			70	70	71	74						c. p. d.
7 "			64	66	66	74			Calm.	0		
8 "			62	62	66	73						
9 "	30·180	66°	63	63	66	73	74°					
10 "			63	63	66	73			Var.	1		
11 "			63	63	66	73					Cir. stra.	b. c.
12 "			63	63	66	73		Rain·2 in.				
Mean.	30·135	68·5	69·79	70·16	70·16	72·5	72·25					

OBSERVATORY.

HILO, ISLAND OF HAWAII.

1841.	Barom.	THERMOMETERS.						Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Feb. 26.												
1 A. M.			60°	63°	63°	71°			S. W.	2	Cir. stra.	b. c.
2 "			60	61	61	71						
3 "	30·100	64°	60	62	63	70	64°					
4 "			60	61	61	70						
5 "			60	61	61	70					Clear.	b.
6 "			60	61	61	70				1		
7 "			72	71	68·5	71						
8 "			78	82	75	73			N. E.	3	Cum. stra.	b. c.
9 "	30 100	74°	90	101·5	82·5	74	74°					
10 "			85	92	84	74						
11 "			88	93	83·5	74				4		
12 "			81·5	88	80	73						
1 P. M.			81	86	79	75						
2 "			85·5	89	80	75				2		
3 "	30·100	75°	75·5	76	74·5	75	74°					
4 "			74	74·5	73	74				1		
5 "			73	74·5	73·5	74					Nimbus.	c. u.
6 "			67	70	68·5	73			Var.			
7 "			66	68	63	73						c. p.
8 "			66	68	67	73						c.
9 "	30·200	65°	66	68	67	73	65°		W^d.	2		
10 "			66	68	67	73						c. p.
11 "			66	66	66	74				3		
12 "			64	66	65	74		Rain·4 in.				
Mean.	30·125	69·5	71·02	73·77	70·29	72·79	69·25					
Feb. 27.												
1 A. M.			63°	63°	67°	72°			W. S. W.	2	Nimbus.	r.
2 "			63	63	66	72						
3 "	30·180	64°	63	63	66	71	64°					c. p.
4 "			63	63	64	71						
5 "			64	66	65	72				1		p.
6 "			64	66	65	72						
7 "			66	68	67·5	73			Var.			
8 "			81	87	75·5	73					Cum. stra.	b. c.
9 "	30·200	72°	95	99·5	85·5	73	70°					
10 "			95	97	86·5	73						
11 "			80	86	78	73						
12 "						73			N. E.	2		
1 P. M.						74						
2 "			88	88	84	75						
3 "	30·200	75°	78	81	76·5	75	74°					
4 "			86	88	82	75			Var.	1		
5 "			79	83	76	75			Calm.	0		
6 "			71	72	71	75						c.
7 "			69	70	79	74					Nimbus.	
8 "			69	70	70	74						
9 "	30·220	69°	66	67	70	72	65°		W^d.	3		c. p. q.
10 "			64	64	68	72				5		
11 "			63	64	67	72				2		c. p.
12 "			63	62	67	72		Rain 1·in.				
Mean.	30·200	70	72·41	74·11	72·57	72·04	68·25					

OBSERVATORY.

HILO, ISLAND OF HAWAII.

1841.	Barom.	THERMOMETERS.						Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Feb. 28.												
1 A. M.			64°	64°	65°	74°			Wd.	4	Nimbus.	q. r.
2 "			65	65	66	74						
3 "	30·180	64°	65	65	65	73	67°					
4 "			66	66	63	73				5		
5 "			67	66	63	72						
6 "			65	64	68	72						
7 "						72				3		c. q.
8 "			72	71	72	73			W. S. W.	5		
9 "	30·290	74°	77	73	76	73	73°		W. N. W.			
10 "			75	73	76	74						
11 "						74			North.	6		
12 "						74					Cum. stra.	b. c.
1 P. M.						74			N. E.			
2 "						74						
3 "	30·200	76°				74	74°					
4 "						74				4		
5 "						74						
6 "						74						
7 "						73				2	Cir. cum.	
8 "						73				1		
9 "	30·340	69°				72	68°		Wd.	2		c. p.
10 "						72						
11 "						72						
12 "						70		Rain·8 in.				
Mean.	30·252	70·75	68·44	67·44	68·22	73·08	70·5					

OBSERVATORY.

HILO, ISLAND OF HAWAII.

DAILY MEANS.

1841.	Barometer.	THERMOMETERS.					
		Att.	Black Bulb.	Black Wool.	No Wool.	Water.	Mast-head.
Jan. 31st.	30.120	71·75	78·14	81·26	74·92	74·04	70·25
Feb. 1st.		70·5	73·90	74·28	73·44	72·92	68·75
" 2d.		68·25	70·14	69·09	69·5	73·66	67·5
" 3d.		71	73·61	74·61	71·46	73·5	70·75
" 4th.	30·080	68·75	67	67·48	68·35	73·37	67·75
" 5th.	30·080	69·75	69·56	68·35	70·21	72·71	70
" 6th.	30·060	69·5	71·06	70·75	70·43	72·25	71·75
" 7th.	30·055	71	72·5	76·85	69·73	72·78	69·75
" 8th.	30·020	68·5	72·66	75·69	71·04	73·33	67
" 9th.	29·990	72·25	74·54	78·12	70·87	73·37	70
" 10th.	29·975	72	71·59	72·89	70·11	73·54	70·25
" 11th.	29·862	72·75	75·92	79·45	73·75	74·21	70
" 12th.	29·865	73·5	73·83	76·23	74·77	73·33	73
" 13th.	29·966	70·75	67·29	67·83	67·68	73·5	69·66
" 14th.	30·015	73·75	73·6	74·42	72·29	72·92	73·33
" 15th.	30·117	71	75·72	78·33	74·1	72	70·75
" 16th.	30·045	70	75·08	78·64	72·21	72·96	72·25
" 17th.	30·017	74·5	74·8	76·35	73·52	74·08	71
" 18th.	30·052	74	76	80·48	75·29	73·79	73·25
" 19th.	30·135	74·25	76·64	79·71	75·73	72·75	71·75
" 20th.	30·245	70·25	73·23	75·62	72·66	73	69·5
" 21st.	30·220	70·25	71·25	72·94	70·98	71·87	69·5
" 22d.	30·140	69·75	72·12	73·73	71·6	72·87	68·75
" 23d.	30·125	71	72·56	70·91	68·41	73·37	68
" 24th.	30·145	69·25	66·81	68·58	68·58	73·12	69·33
" 25th.	30·135	68·5	69·79	70·16	70·16	72·5	72·25
" 26th.	30·125	69·5	71·02	73·77	70·29	72·79	69·25
" 27th.	30·200	70	72·41	74·11	72·57	72·04	68·25
" 28th.	30·252	70·75	68·44	67·44	68·22	73·08	70·5
Gen. Mean.	30·078	70·93	72·46	74·08	72·44	73·09	70·14

OBSERVATORY.

HILO, ISLAND OF HAWAII.

RESULTS.

BAROMETER.

Mean of 26 days,	30·078
Highest mean,	30·252
Lowest mean,	29·862
Highest point,	30·340
Lowest point,	29·800

THERMOMETER ATTACHED.

Mean of 29 days,	70·93°
Highest mean,	74·5
Lowest mean,	68·25
Highest point,	81
Lowest point,	60

THERMOMETER WITH BLACK BULB.

Mean of 29 days,	72·46°
Highest mean,	78·14
Lowest mean,	66·81
Highest point,	101
Lowest point,	51·5

THERMOMETER WITH BLACK WOOL.

Mean of 29 days,	74·08°
Highest mean,	81·26
Lowest mean,	67·44
Highest point,	114
Lowest point,	52

THERMOMETER WITH NO WOOL.

Mean of 29 days,	72·44°
Highest mean,	75·73
Lowest mean,	67·68
Highest point,	95
Lowest point,	51

TEMPERATURE OF WATER.

Mean of 29 days,	73·09°
Highest mean,	74·21
Lowest mean,	71·87
Highest point,	76
Lowest point,	68

THERMOMETER AT MAST-HEAD.

Mean of 29 days,	70·14°
Highest mean,	73·33
Lowest mean,	67
Highest point,	80
Lowest point,	60

U. S. SHIP VINCENNES.

HILO BAY, ISLAND OF HAWAII.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 1.												
1 A. M.			67°	70°				W. S. W.	3	Cir. stra.	c. p.	
2 "			67	70							c.	
3 "			67	70	66°	30·300						
4 "			67	70								
5 "			67	71				S. W.		Nimbus	c. u.	
6 "			67	72					2			
7 "			65	73								
8 "			65	73								
9 "			67	73	67°	30·380		Var.	1			
10 "			71	74				Calm.	0			
11 "	Hilo Bay.		74	74				E^{d}.	3			
12 "			75	74						Cum. st.	b. c.	
1 P. M.			77	74								
2 "			77	74						Cum.		
3 "			76	74	76°				2			
4 "			75	74				Var.	1			
5 "			74	74								
6 "			73	74				Calm.	0			
7 "			73	74								
8 "			70	74						Clear.	b. w.	
9 "			70	74	70°	30·360		W^{d}.	2			
10 "			70	74								
11 "			67	73					1	Cir. stra.	b. c. w.	
12 "			67	73				S. W.	2			
Mean.			70·33	72·92	69·75	30·346						
Mar. 2.												
1 A. M.			66°	72°				S. W.	2	Cir. stra.	b. c. w.	
2 "			66	72							c. d.	
3 "			66	72		30·300						
4 "			65	72				West.				
5 "			65	72							c.	
6 "			65	72				N. W.	4			
7 "			67	72							c. p.	
8 "			70	73							c.	
9 "			71	73	70°	30·360			2			Took down the Observatory, and brought the instruments on board.
10 "			66	73				Var.	1	Over-cast.	c. p.	
11 "			74	74								
12 "	Hilo Bay.		70	74								
1 P. M.			71	73								
2 "			72	73							c. p. d.	
3 "			75	73	70°	30·280						
4 "			74	73				Calm.	0			
5 "			74	73								
6 "			73	73								
7 "			70	74				Var.	1	Cir. stra.	c.	
8 "			69	74								
9 "			67	73		30·300						
10 "			67	73								
11 "			67	73								
12 "			67	73								
Mean.			69·04	72·87	70	30·310						

U. S. SHIP VINCENNES.

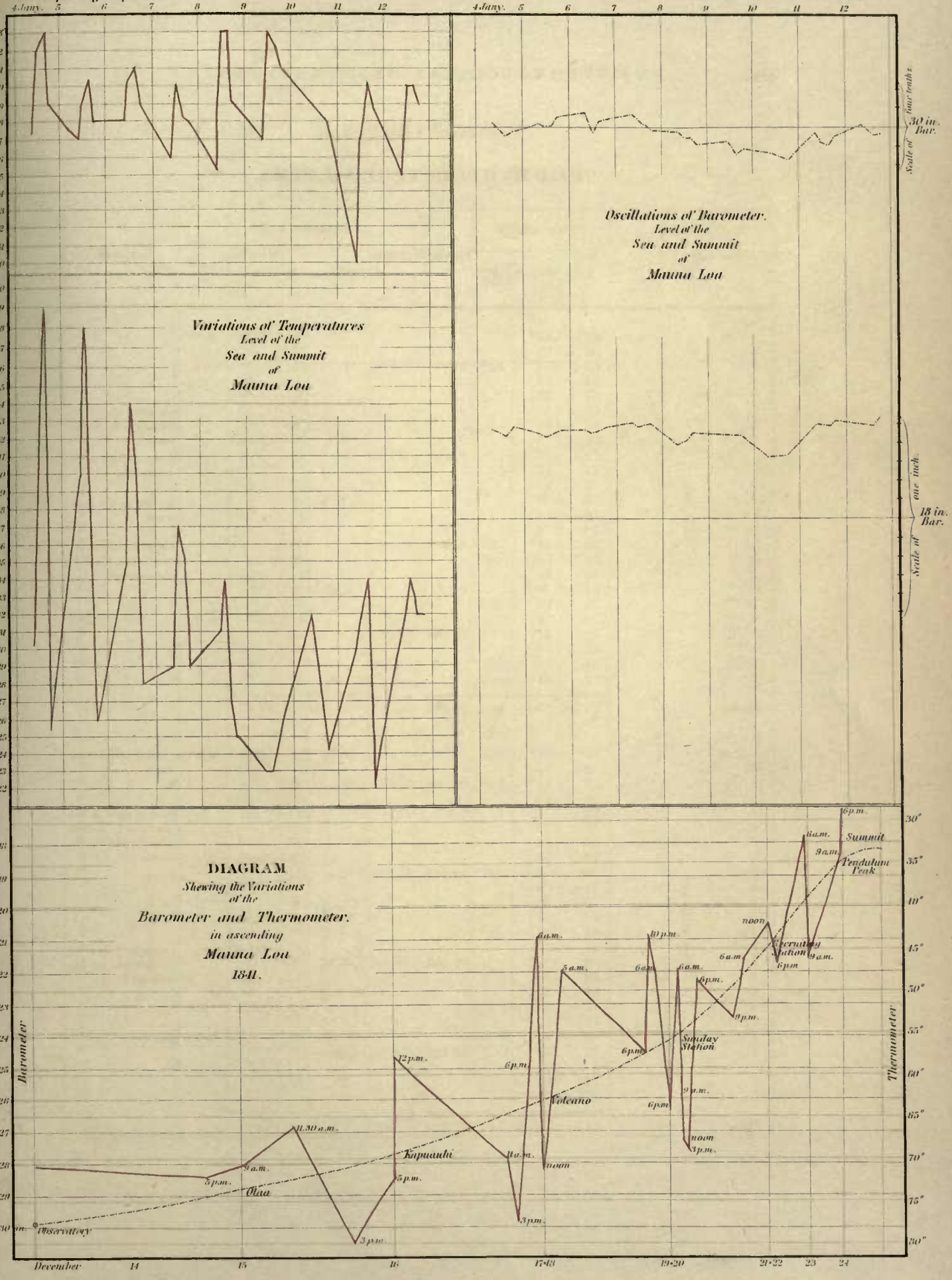
HILO BAY, ISLAND OF HAWAII.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 3.												
1 A. M.			67°	71°				Var.	1	Cir. stra.	c.	
2 "			67	71								
3 "			67	71	68°	30·320						
4 "			67	71								
5 "			67	71						Over-	r.	
6 "			67	71						cast.		
7 "			67	71				Calm.	0			
8 "			67	71						Cir. stra.	c. p.	
9 "			68	72	68°	30·340						
10 "			71	73				Var.	1			
11 "			74	73							c.	
12 "			74	73								Preparing ship for sea.
1 P. M.			77	74						Cir. cum		
2 "			77	74								
3 "	Hilo Bay.		77	74	68°	30·260						
4 "			76	74								
5 "			75	74							c. p.	
6 "			73	73								
7 "			66	73							c.	
8 "			66	72				W^{d}.	2			
9 "			66	73	64°	30·300			3			
10 "			66	73							p.	
11 "			65	73							c.	
12 "			65	73						Cirrus.	b. c.	
Mean.			69·66	72·46	67	30·305						
Mar. 4.												
1 A. M.			65°	71°				W^{d}.	2	Cirrus.	b. c.	
2 "			65	71								
3 "			65	71	67°	30·200		S. W.				
4 "			65	71						Cir. stra.		
5 "			65	71								
6 "			66	71								
7 "			66	71				Calm.	0			
8 "			68	72								
9 "			68	74	67°	30·280		W^{d}.	2	Clear.	b.	
10 "			73	74					3			
11 "			74	74					2	Cir. cum	b. c.	
12 "			78	74				N. E.	1			
1 P. M.			78	75					2	Over-	o.	
2 "			78	75						cast.	r.	
3 "	Hilo Bay.		74	75	74°	30·200						
4 "			72	75				North.	3			
5 "			71	75						Cir. stra.		
6 "			70	75				N. N. W.			c. p.	
7 "			70	75								
8 "			69	75								
9 "			69	73	68°	30·240		N. E.	2	Cir. cum	b. c.	
10 "			68	74								
11 "			67	74								
12 "			67	74								
Mean.			69·62	73·25	69	30·230						

U. S. SHIP VINCENNES.

FROM HILO TO LAHAINA.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 5.												
1 A. M.			66°	73°				N^{d}.	2	Cir.cum	b. c.	
2 "			66	73				N. W.	3			
3 "			65	73	65°	30·250			1		c. d.	
4 "			65	73							c. p. d.	
5 "			65	73								
6 "			66	73								Got under way.
7 "			67	73					2			Steering to the northward.
8 "			73	73				W^{d}.		Clear.	b.	
9 "			73	73		30·200			1			Hawaii in sight to the westward.
10 "			73	73								
11 "			73	73								
12 "			73	73				E. N. E.	2			Steering to the westward.
1 P. M.			76	74								
2 "			75	74								
3 "	Hilo Bay.		75	74	73°	30·240						Hawaii in sight to the southward, Maui to the westward.
4 "			72	74					3			
5 "			73	74								
6 "			71	74				N. E.	4			
7 "			70	74								
8 "			70	74							b. w.	
9 "			71	74		30·160						
10 "			71	74					3			
11 "			71	74								
12 "			71	74								
Mean.			70·46	73·5	69	30·212						
Mar. 6.												
1 A. M.			72°	75°				N. E.	4	Clear.	b. w.	Steering to the westward.
2 "			72	75								
3 "			72	74	72°	30·300			5			
4 "			72	74								
5 "			72	74							b.	Maui in sight to the northward, Kahoolawe to the southward.
6 "			73	74								
7 "			73	74								
8 "			75	74					4	Cirrus.	b. c.	
9 "			76	74	76°	30·210						
10 "			77	74					3			
11 "			79	76				Calm.	0			
12 "			81	76				S. E.	2	Cir.cum		
1 P. M.			81	76				S. S. E.				
2 "			81	76						Cum. st.		
3 "			80	76		30·160		S. S. W.	3			Anchored off the town of Lahaina in 16½ fathoms water.
4 "			80	76						Cum.		
5 "			72	76				W. S. W.				
6 "			72	75					2	Clear.	b.	
7 "			72	75								
8 "			72	74				N. W.	1		b. w.	
9 "			72	74		30·230		Calm.	0			
10 "			71	74								
11 "			71	74				E^{d}.	2			
12 "			71	74								
Mean.			74·54	74·75	74	30·225						


4 Janv. 5 6 7 8 9 10 11 12
Variations of Temperatures
Level of the
Sea and Summit
of
Mauna Loa
Oscillations of Barometer.
Level of the
Sea and Summit
of
Mauna Loa
Scale of four tenths
30 in. Bar.
Scale of one inch.
18 in. Bar.
DIAGRAM
Shewing the Variations
of the
Barometer and Thermometer.
in ascending
Mauna Loa
1841.
Barometer
Thermometer
Observatory
Olaa
Kapuaihi
Volcano
Summit
Pendulum Peak
Observatory Station
Sunday Station
December 14 15 16 17-18 19-20 21-22 23 24

U. S. SHIP VINCENNES.

LAHAINA ROADS, ISLAND OF MAUI.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 7.												
1 A. M.			70°	74°				N. Ed.	2	Clear.	b. w.	
2 "			70	74								
3 "			69	74	68°	30·040		E. N. E.				
4 "			69	74								
5 "			68	74				E. S. E.	3			
6 "			68	74					1		b.	
7 "			78	74				S. E.				
8 "			76	76						Cum. st.	b. c.	
9 "			75	76	73°	30·080		S. W.	2			
10 "	Lahaina Roads.		75	76								
11 "			75	76								
12 "			77	76								
1 P. M.			79	76						Cirrus.		
2 "			78	76								
3 "			78	76		30·000			3	Clear.	b.	
4 "			76	76								
5 "			74	75					2			
6 "			73	75						Cir. stra.	b. c.	
7 "			74	75				S. S. W.				
8 "			74	74								
9 "			73	74		30·080		S. S. E.	1			
10 "			73	74						Over-	o.	
11 "			72	74				S. E.		cast.		
12 "			71	74				Calm.	0			
Mean.			73·54	74·87	70·5	30·050						
Mar. 8.												
1 A. M.			71°	74°				Calm.	0	Over-	o.	
2 "			71	74						cast.		
3 "			71	74	68°	30·040						
4 "			71	74								
5 "			70	74						Cir. cum	b. c.	
6 "			69	74								
7 "			70	74								
8 "			70	75								
9 "			71	75	72°	30·080		S. E.	1			The king of the Sandwich Islands visited the ship.
10 "			73	75					2	Stratus.	c.	
11 "			79	75					1			
12 "			80	75								
1 P. M.			80	76				W d.	3	Cir. stra.	b. c.	
2 "			80	76								
3 "	Lahaina Roads.		79	75	78°	30·000						
4 "			80	74								
5 "			78	74					2	Cirrus.		
6 "			75	74					1			
7 "			75	74				Calm.	0	Clear.	b. w.	
8 "			74	74				S. E.	2			
9 "			73	74	72°	30·100						
10 "			72	74								
11 "			70	74								
12 "			70	74								
Mean.			73·83	74·42	72·5	30·055						

U. S. SHIP VINCENNES.

LAHAINA ROADS, ISLAND OF MAUI.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 9.												
1 A. M.			70°	74°				S.S.W.	1	Clear.	b. w.	
2 "			70	74								
3 "			70	74	69°	30·200		S. W.				
4 "			70	74					2			
5 "			70	74								
6 "			73	74							b.	
7 "			74	74					3			
8 "			76	74								
9 "			76	74	73°	30·090		W. S. W.				
10 "			77	74						Cir. stra.	b. c.	
11 "			77	74					4			Boats absent surveying.
12 "			78	74								
1 P. M.			80	75						Cirrus.		
2 "			80	75				N. W.				
3 "			80	75	80°	30·040						
4 "			79	75								
5 "			76	75					2	Clear.	b.	
6 "			75	75								
7 "			75	75				Var.	1		b. w.	
8 "			74	74								
9 "			74	74	73°	30·100		Calm.	0			
10 "			74	74								
11 "			74	74				Var.	1	Cirrus.		
12 "			74	74								
Mean.			74·83	74·29	73·75	30·107						
Mar. 10.												
1 A. M.			72°	74°				Var.	1	Cirrus.	b. c. w.	
2 "			72	74								
3 "			72	74	72°	30·090		N. E.	2	Cir.cum	b. c.	
4 "			72	74								
5 "			72	74						Cum. st.		
6 "			72	74								
7 "			74	74					3			
8 "			75	74					4	Cum.		
9 "			73	74	71°	30·100						
10 "			73	74								
11 "			75	76						Nimbus	c.	
12 "			75	75				North.	5			
1 P. M.			78	75					7	Stratus.	c. q.	
2 "			77	75					9			
3 "			73	75	73°	30·040			6			
4 "			75	75				N. N. W.	8			
5 "			72	74						Clear.	b. q.	
6 "			73	73					7			
7 "			73	73					9		q.	
8 "			73	73					7	Cir. stra.	c. q.	
9 "			73	74	72°	30·100		North.				
10 "			73	74					11		q.	
11 "			73	73					8		c. q.	
12 "			73	73								
Mean.			73·46	74·08	72	30·082						

U. S. SHIP VINCENNES.

LAHAINA ROADS, ISLAND OF MAUI.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 11.												
1 A. M.			69°	72°				N^{d}.	8	Cir.cum	c. q.	
2 "			69	72								
3 "			69	72	68°	30·100						
4 "			69	72					9			
5 "			69	72					7			
6 "			69	72				N. N. E.				
7 "			72	73					8			
8 "			74	74					6			
9 "			74	74	74°	30·000				Cum.	b. c. q.	
10 "	Lahaina Roads.		76	74								
11 "			78	74					4			
12 "			79	74					6			
1 P. M.			81	76				North.	5			
2 "			81	76					7			
3 "			79	76	78°	30·060				Cum. st.		
4 "			79	76					6			
5 "			75	75				N. E.				
6 "			73	74					4			
7 "			72	74				N. N. E.				
8 "			72	74							b. c. l.	
9 "			72	74	71°	30·080			5			
10 "			72	74				N. E.		Cum.	b. c.	
11 "			72	74								
12 "			71	74					4			
Mean.			73·58	73·83	72·75	30·060						
Mar. 12.												
1 A. M.			71°	73°				N. N. E.	4	Cum.	b. c.	
2 "			69	73								
3 "			69	73	68°	30·090						
4 "			69	73					2	Cir.cum		
5 "			70	73				Var.	1	Cir.stra.	c.	
6 "			71	73								
7 "			73	73								
8 "			74	74								
9 "			79	75	78°	30·120						
10 "			79	75								
11 "			79	75								
12 "			80	75								
1 P. M.			81	75				S. S. W.	2			
2 "			81	75								
3 "	Lahaina Roads.		81	75	79°	30·040		West.	1			
4 "			76	75								
5 "			77	75								
6 "			75	74				N. W.				
7 "			73	74						Clear.	b. w.	
8 "			72	74				S. S. W.	2			
9 "			72	74	72°	30·080		S. W.		Cirrus.		
10 "			72	74								
11 "			72	74								
12 "			72	74								
Mean.			74·46	74·08	74·25	30·082						

U. S. SHIP VINCENNES.

LAHAINA ROADS, ISLAND OF MAUI.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 13.												
1 A. M.			71°	74°				S. W.	2	Cirrus.	b. c. w.	
2 "			70	74								
3 "			70	74	69°	30·100						
4 "			70	74				Var.	1			
5 "			70	74								
6 "			71	74				N. W.		Clear.	b.	
7 "			72	74								
8 "			72	74								
9 "			77	75	77°	30·120						
10 "			77	75								
11 "			79	75				W. S. W.	3			
12 "			79	75								
1 P. M.			76	74								
2 "			75	74				S. W.	4			
3 "	Lahaina Roads.		74	74		30·120						
4 "			73	74								
5 "			72	74					3	Stratus.	c.	
6 "			70	74								
7 "			70	74				Var.	1	Over-cast.	o.	
8 "			70	74								
9 "			72	74		30·180		Calm.	0			
10 "			72	74						Cir. stra.	b. c.	
11 "			72	74				Var.	1			
12 "			72	73								
Mean.			72·75	74·12	73	30·130						
Mar. 14.												
1 A. M.			71°	73°				Var.	1	Cir. cum	b. c. w.	
2 "			71	73								
3 "			69	73	67°	30·120		S. W.				
4 "			68	73								
5 "			68	73							b. c.	
6 "			68	73								
7 "			69	73								
8 "			69	73						Clear.	b.	
9 "			79	74	73°	30·140		Var.				
10 "			80	75								
11 "	Lahaina Roads.		77	75				Calm.	0			Boats employed surveying Kahoolawe.
12 "			77	75				Var.	1			
1 P. M.			80	75						Cirrus.	b. c.	
2 "			80	75				North.	2			
3 "			80	75	78°	30·100			1			
4 "			78	74						Clear.	b.	
5 "			76	74				Var.				
6 "			74	74								
7 "			72	74				Calm.	0		b. w.	
8 "			70	74								
9 "			70	74	69°	30·180		Var.	1			
10 "			70	74								
11 "			70	74								
12 "			70	74								
Mean.			73·16	73·92	71·75	30·135						

U. S. SHIP VINCENNES.

LAHAINA ROADS, ISLAND OF MAUI.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 15.												
1 A. M.			69°	74°				Var.	1	Clear.	b. w.	
2 "			70	74								
3 "			70	74	69°	30·160						
4 "			70	74				Calm.	0			
5 "			69	74							b.	
6 "			69	74				Var.	1			
7 "			70	74								
8 "			74	74				Calm.	0			
9 "			71	74	70°	30·040		South.	2			
10 "			74	74								
11 "			74	74								
12 "			76	74								
1 P. M.			79	75								
2 "			79	75				Var.	1			
3 "	Lahaina Roads.		76	75	76°	30·120				Cum.	b. c.	
4 "			75	75						Clear.	b.	
5 "			73	75				S. E^{d}.	2			
6 "			73	74					1			
7 "			72	74				Calm.	0		b. w.	
8 "			72	74								
9 "			71	74	70°	30·160		S. E.	1			
10 "			69	74								
11 "			69	74								
12 "			69	74				S. S. W.				
Mean.			70·22	74·21	71·25	30·120						
Mar. 16.												
1 A. M.			72°	74°				S. W.	1	Clear.	b. w.	
2 "			72	74								
3 "			69	73	68°	30·200		Var.				
4 "			68	73								
5 "			68	72								
6 "			68	72							b.	
7 "			68	72				S. W.	3			
8 "			74	74								
9 "			75	74	68°	30·160						
10 "			75	74								Got under way, steering for Kahoolawe.
11 "	Lahaina Roads.		75	74						Cum.	b. c.	
12 "			75	74								
1 P. M.			79	76								
2 "			79	76					2			
3 "			81	76	80°	30·080				Cir.cum		
4 "			78	76				Var.	1			
5 "			77	76								
6 "			75	76								Maui and Kahoolawe in sight.
7 "			74	76								
8 "			72	74				N. E.	3			
9 "			73	74		30·140						
10 "			73	75					4			Hove to.
11 "			73	75								
12 "			73	74					3			
Mean.			72·58	74·42	72	30·145						

U. S. SHIP VINCENNES.

FROM LAHAINA TO HONOLULU.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 17.												
1 A. M.			71°	74°				N. E.	3	Cir.cum	b. c.	Hove to.
2 "			71	74								
3 "			71	74	70°	30·160						
4 "			71	74					4			
5 "			71	74								Steering for Kahoolawe.
6 "			71	74					5			
7 "			72	73								
8 "			72	73				E. N. E.		Cum.		Boats employed surveying shoal off S.W. point of Kahoolawe.
9 "			73	73	72°	30·280			4			
10 "			74	74				East.				
11 "			74	74								
12 "			75	74						Clear.	b.	
1 P. M.			75	76				E. S. E.	2			
2 "			75	76								
3 "			73	76	70°	30·100						
4 "			75	75				Var.	1			Lanai in sight to the northward.
5 "			75	75								
6 "			75	75				N. E.	2	Cirrus.		
7 "			74	75						Nimbus	c. u.	Course N. W.
8 "			74	75								
9 "			72	74	71°	30·120			3			
10 "			72	74								
11 "			72	74					4			
12 "			74	74								
Mean.			73	74·33	70·75	30·165						
Mar. 18.												
1 A. M.			71°	73°				N. E.	4	Nimbus	c.	Hove to, with maintopsail aback.
2 "			71	73								
3 "			71	73	75°	30·080						
4 "			72	73								
5 "			72	73						Clear.	b.	Oahu in sight.
6 "			72	73				E. N. E.	3			
7 "			73	73								Anchored in Honolulu Roads in 9 fms. water.
8 "			73	73					4			
9 "			76	73		30·200						
10 "			77	73								
11 "			77	73								
12 "			77	73								
1 P. M.			78	74					3			
2 "			76	74								
3 "			76	74	75°	30·220		E. S. E.	2			
4 "			76	74								
5 "			74	74				S. E.				
6 "			73	74								
7 "			73	74					1		b. w.	
8 "			73	74								
9 "			73	74	73°	30·080						
10 "			73	74							b. c. w.	
11 "			72	74				N. E.	3	Cum. st.		
12 "			72	74								
Mean.			73·79	73·5	74·33	30·145						

Honolulu Roads. Off Kahoolawe.

U. S. SHIP VINCENNES.

HARBOUR OF HONOLULU.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 19.												
1 A. M.			70°	73°				East.	2	Cum. st.	b. c. w.	
2 "			70	73								
3 "			70	73	70°	30·080		North.	1			
4 "			70	74				S. W.		Clear.	b.	
5 "			71	74								
6 "			72	74								Got under way and anchored in Harbour of Honolulu in 5½ fathoms water.
7 "			74	74								
8 "			76	74				Var.				
9 "			78	74	77°	30·180		N. E.	3	Cum.	b. c.	
10 "			79	74								
11 "			81	74						Nimbus		
12 "			82	74								
1 P. M.			79	74								
2 "			80	75					2	Cum. st.		
3 "			80	75	79°	30·100		Calm.	0			
4 "			77	75						Clear.	b.	
5 "			74	75								
6 "			73	75								
7 "			73	75						Cum.	b. c.	
8 "			73	74				Var.	1	Nimbus	c.	
9 "			74	74	74°	30·180		East.		Cir. stra.	c. p. d.	
10 "			73	74								
11 "			73	74								
12 "			73	74								
Mean.			74·79	74·12	75	30·135						
Mar. 20.												
1 A. M.			71°	74°				Var.	1	Cir. stra.	c.	
2 "			70	74				N. E.	2			
3 "			71	74	74°	30·180					c. p.	
4 "			71	74						Nimbus		
5 "			71	74					3			
6 "			71	74								
7 "			71	74								
8 "			71	74								An English brig arrived from Valparaiso.
9 "			74	74	73°	30·240		E. N. E.		Cum.	b. c.	
10 "			74	74					4			
11 "			80	74								
12 "			79	74				E. by N.				
1 P. M.			79	75						Clear.	b.	
2 "			79	75				N. E.				
3 "			78	75		30·180			5	Cum. st.	b. c.	
4 "			75	75						Cir. stra.		
5 "			75	75							c. p. d.	
6 "			74	75					4			
7 "			73	74				E. N. E.		Nimbus	c. p. q.	
8 "			73	74								
9 "			73	74	73°	30·200						
10 "			73	74								
11 "			73	74								
12 "			73	74								
Mean.			73·83	74·25	73·33	30·200						

U. S. SHIP VINCENNES.

HARBOUR OF HONOLULU.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 21.												
1 A. M.			72°	74°				E. N. E.	5	Nimbus	q. p. d.	
2 "			71	74								
3 "			71	74	69°	30·100						
4 "			71	74								
5 "			72	74					4			
6 "			73	74						Cum. st.	b. c.	
7 "			73	74				N. E.		Nimbus	c.	
8 "			73	74								
9 "			73	74	74°	30·220			5			
10 "			73	74							q. p. d.	
11 "			71	74								
12 "			79	74								
1 P. M.			78	74				E. N. E.	4			
2 "			76	74						Cum. st.	c. b. q.	
3 "			76	74	74°	30·180		East.				
4 "			76	74								
5 "			75	74							b. c.	
6 "			74	74								
7 "			73	74				E. N. E.				
8 "			73	74					5		q.	
9 "			74	74	70°			N. E.			b. c. q.	
10 "			72	74								
11 "			69	74								
12 "			69	74								
Mean.			73·21	74	71·75	30·166						
Mar. 22.												
1 A. M.			71°	74°				N. N. E.	6	Cum. st.	c.	
2 "			71	74							c. q.	
3 "			71	74	68°	30·200						
4 "			69	74								
5 "			70	74					5			
6 "			72	74								
7 "			72	74								
8 "			72	74								
9 "			77	74	77°	30·240			4			
10 "			76	74				N. E.				An American schooner capsized off the harbour.
11 "			77	74						Nimbus		
12 "			77	74					5			
1 P. M.			78	74							c. q. p. d.	
2 "			78	74								
3 "			78	74		30·160		E. N. E.				
4 "			77	74								
5 "			77	74								
6 "			72	74					6			
7 "			71	74				N. E.	4			
8 "			70	74								
9 "			72	74		30·200			7			
10 "			72	74					5			
11 "			72	74								
12 "			72	74								
Mean.			73·5	74	72·5	30·200						

U. S. SHIP VINCENNES.

HARBOUR OF HONOLULU.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 23.												
1 A. M.			72°	73°				N. E.	6	Nimbus	c. p.	
2 "			72	73								
3 "			72	73		30·180						
4 "			72	73					5			
5 "			72	73				E. N. E.			c.	
6 "			72	73					4	Cum. st.	b. c.	
7 "			72	73								
8 "			72	73								
9 "			75	73	70°	30·160						
10 "			77	73					5		b. c. q.	
11 "			78	73								Two Hawaiian schooners arrived.
12 "			78	73								
1 P. M.			78	73						Clear.	b. q.	
2 "			77	72				N. E.				
3 "			77	72	72°	30·080						
4 "			76	72					4		b.	
5 "			75	72						Cum.		
6 "			72	72								
7 "			70	72								
8 "			70	73							b. w.	
9 "			70	73		30·100						
10 "			69	73					2	Clear.		
11 "			68	73								
12 "			69	73						Cir.cum		
Mean.			73·12	72·75	71	30·135						
Mar. 24.												
1 A. M.			71°	73°				N. E.	2	Cir.cum	b. c. w.	
2 "			70	73								
3 "			69	72	68°	30·160						
4 "			69	72					3			
5 "			69	72							b. c.	
6 "			69	72								
7 "			74	74				E. N. E.	4	Cum.		
8 "			74	74								
9 "			74	74	68°	30·100						
10 "			74	74								
11 "			77	73								
12 "			77	73					5			
1 P. M.			77	74						Nimbus		
2 "			77	74				N. E.	4			
3 "			76	74	73°	30·060		E. N. E.			c. p.	
4 "			76	74								
5 "			76	74								
6 "			74	74					5		b. c.	
7 "			72	74								The Porpoise anchored off the harbour.
8 "			72	74							c. q. p.	
9 "			68	73	66°	30·220						
10 "			68	73					4			
11 "			66	73						Cum. st.		
12 "			66	73						Nimbus	r.	
Mean.			72·29	73·33	68·75	30·135						

U. S. SHIP VINCENNES.

HARBOUR OF HONOLULU.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 25.												
1 A. M.			68°	72°				E. N. E.	4	Nimbus	r.	
2 "			68	72								
3 "			68	72	66°	30·180						
4 "			68	72				N. E.	3			
5 "			70	72							c. p.	
6 "			70	72								
7 "			71	72								The Porpoise anchored in the inner harbour.
8 "			74	73					6		q. p. d.	
9 "			74	73	73°	30·120			3			
10 "			76	74					7			
11 "			77	74					4			
12 "			77	74				N.E.byE.		Cum. st.	b. c.	
1 P. M.			77	74								
2 "			77	74				N. E.				
3 "			77	74	76°	30·100		N. N. E.				
4 "			76	74								
5 "			74	74						Cum.		
6 "			74	74					5			
7 "			73	74								
8 "			73	74				N. E.		Cum. st.		
9 "			71	73	70°	30·240			4		b. c. q.	
10 "			70	73								
11 "			71	72								
12 "			72	72					5			
Mean.			72·75	73·08	71·25	30·160						
Mar. 26.												
1 A. M.			70°	72°				N. E.	5	Nimbus	c. q.	
2 "			70	72							c. q. p. d.	
3 "			70	72	69°	30·160						
4 "			70	72							c. p. d.	
5 "			70	73					4	Cum.	b. c.	
6 "			71	73								
7 "			74	73								
8 "			74	73					5			
9 "			74	73	72°	30·160			6	Clear.	b.	
10 "			77	73				N. N. E.				
11 "			78	73				N. E.			b. q.	
12 "			78	73				N.E.by N				
1 P. M.			78	73								
2 "			78	73						Cum. st.	b. c. q.	
3 "			76	73	75°	30·160						
4 "			76	73				N.E.byE.	5			
5 "			75	73								
6 "			74	74					7			
7 "			74	74						Cum.		
8 "			72	74					6	Cum. st.		
9 "			72	74		30·200				Nimbus		
10 "			72	74								
11 "			72	74						Cum. st.		
12 "			72	74								
Mean.			73·62	73·12	72	30·170						

U. S. SHIP VINCENNES.

HARBOUR OF HONOLULU.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 27.												
1 A. M.			72°	73°				N. E.	5	Cum. st.	b. c. l.	
2 "			72	73								
3 "			72	73		30·200						
4 "			72	73					6			
5 "			72	72						Nimbus	c. q. p.	
6 "			72	72								
7 "			72	72				E. N. E.				
8 "			72	72						Cir.cum		
9 "			71	72	71°	30·200					b. c. q.	
10 "			71	72								
11 "			73	72					4			
12 "			74	72								
1 P. M.			78	72								
2 "			78	72						Cum.	b. c.	
3 "			77	72	75°	30·160		N.E.byE.				
4 "			76	72					3	Cum. st.		
5 "			74	72				N. E.	4		c. p. d.	
6 "			74	72								
7 "			71	72						Nimbus		
8 "			71	72				E. N. E.			c. p.	
9 "			69	72		30·220			5			
10 "			69	72							c. p. d.	Saw a lunar rainbow,
11 "			70	72					4			alt. 10°.
12 "			72	72								
Mean.			72·66	72·16	73	30·195						
Mar. 28.												
1 A. M.			72°	73°				E. N. E.	4	Nimbus	c. p.	
2 "			72	73				N. E.				
3 "			71	72	70°	30·160						
4 "			69	72								
5 "			69	72								
6 "			69	72								
7 "			70	72								
8 "			70	72					3	Cum. st.	b. c.	
9 "			74	72	73°	30·240						
10 "			74	72					4			
11 "			75	72				E. N. E.		Clear.	b.	
12 "			76	72				N. E.	5			
1 P. M.			76	73				N.E.byE.	4	Cum.	b. c.	
2 "			76	73				N. N. E.				Preparing ship for sea.
3 "			76	73	75°	30·040						
4 "			75	73				N. E.		Nimbus		
5 "			75	73					3		c.q.p.l.	
6 "			73	73					4			
7 "			72	73				N. N. E.	3			
8 "			71	72						Cir.cum	b. c. l.	
9 "			71	72	70°	30·100						
10 "			68	72					2			
11 "			68	71								
12 "			69	71					3			
Mean.			72·12	72·29	72	30·135						

U. S. SHIP VINCENNES.

HARBOUR OF HONOLULU.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 29.												
1 A. M.			72°	73°				N. N. E.	3	Cum.	b. c. l.	
2 "			72	73						Clear.	b. l.	
3 "			72	73	68°	30·080				Cum. st.	b. c. l.	
4 "			72	73								
5 "			72	72				Nd.	4	Nimbus	c.	
6 "			72	72							c. p.	
7 "			72	72								Shifted our anchorage.
8 "			71	72							b. c.	
9 "			71	72		30·200				Cum. st.		
10 "			73	72				N. N. E.	5			
11 "			74	72				North.				
12 "			74	72				N. E.				
1 P. M.			78	72								
2 "			78	72								
3 "			77	73	75°	30·260						
4 "			76	73								
5 "			74	73				E. N. E.				
6 "			74	73								
7 "			71	73					4	Nimbus	c. p.	
8 "			71	72					5			
9 "			70	73	69°	30·160						
10 "			69	72				N. E.				
11 "			69	72								
12 "			70	72								
Mean.			72·66	72·42	70·66	30·175						
Mar. 30.												
1 A. M.			70°	72°				N. E.	5	Nimbus	c. q. p.	
2 "			70	72					7			
3 "			67	72		30·060			4			
4 "			65	72					6			
5 "			64	72								
6 "			64	72								
7 "			66	72				E. N. E.	4			
8 "			71	72								
9 "			72	72	71°	30·100		N. E. by E.				
10 "			73	72				N. E.		Cum. st.	c. p.	
11 "			74	72							b. c.	
12 "			75	73								
1 P. M.			75	73					5	Clear.	b.	
2 "			75	73								
3 "			74	73		30·020			4			
4 "			74	73								
5 "			73	73				E. N. E.		Cum. st.	b. c. p.	
6 "			71	73								
7 "			71	73								
8 "			71	73								
9 "			76	72		30·100						
10 "			69	72								
11 "			69	72					3	Clear.	b.	
12 "			69	72					2			
Mean.			70·75	72·37	71	30·070						

Harbour of Honolulu.

U. S. SHIP VINCENNES.

HARBOUR OF HONOLULU.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 31.												
1 A. M.			69°	73°				E. N. E.	2	Cum.	b. c.	
2 "			69	73								
3 "			68	72	67°	30·060				Nimbus	c. u.	
4 "			68	72				N. E.	4			
5 "			66	73							r.	
6 "			66	73								
7 "			67	73						Cir. stra.	b. c.	
8 "			75	73								
9 "			78	73	71°	30·090				Cum.		
10 "			78	73						Clear.	b.	
11 "			79	73								
12 "			79	74				E. N. E.				Boats employed surveying.
1 P. M.				74					5			
2 "				74								
3 "				74	75°	30·120						
4 "				74					4			
5 "				74								
6 "				74					3			
7 "				74								
8 "				74				N.E.byE.			b. w.	
9 "				72	69°	30·080		N. E.	2			
10 "				72								
11 "				72								
12 "				72								
Mean.			71·83	73·12	70·5	30·087						
April 1.												
1 A. M.			69°	73°				N. E.	2	Clear.	b. w.	
2 "			69	73								
3 "			69	73	68°	30·080						
4 "			69	73								
5 "			67	73					1			
6 "			67	73							v.	
7 "			70	74								
8 "			73	74				Calm.	0			
9 "			73	74	71°	30·100						
10 "			78	75				N. E.	2			
11 "			80	75						Cirrus.	b. c.	
12 "			80	75								
1 P. M.			82	75								
2 "			79	77				E. N. E.		Cir. cum		
3 "			79	80	79°	30·160			3			
4 "			76	82				E. S. E.				
5 "			75	84				S. E.				
6 "			73	79						Clear.	b.	
7 "			79	78				E. N. E.			b. w.	
8 "			78	75					2			
9 "			75	75	71°	30·100						
10 "			75	75								
11 "			75	75								
12 "			73	73								
Mean.			74·29	75·54	72·25	30·110						

Harbour of Honolulu.

Harbour of Honolulu.

U. S. SHIP VINCENNES.

HARBOUR OF HONOLULU.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 2.												
1 A. M.			67°	77°				E. N. E.	2	Clear.	b. w.	
2 "			67	76								
3 "			67	76	67°	30·100						
4 "			68	76				Var.	1			
5 "			68	76								
6 "			68	75				Calm.	0		b.	
7 "			72	74								
8 "			72	74								
9 "			75	74	73°	30·100		E. N. E.	1			
10 "			74	73								
11 "			74	74								
12 "			79	74				N. E.	4			
1 P. M.			79	72								
2 "			79	72						Cum. st.	b. c.	
3 "			79	72	78°	30·080						
4 "			79	72					3			
5 "			76	72								
6 "			75	72						Clear.	b.	
7 "			72	73				Var.	1			
8 "			68	75								
9 "			68	74	67°	30·100					b. w.	
10 "			68	74				N. E.	3			
11 "			68	74								
12 "			69	75				E. S. E.				
Mean.			72·12	74	71·25	30·095						
April 3.												
1 A. M.			66°	75°				E. S. E.	4	Clear.	b. w.	
2 "			66	75								
3 "			66	75	66°	30·080						
4 "			66	75				N. E.	5			
5 "			66	75							b.	
6 "			66	75					4			
7 "			69	71						Cum. st.	b. c.	
8 "			71	71								
9 "			74	73		30·080						
10 "			74	75				E. N. E.				
11 "			74	75				N.E.byE.	3			
12 "			74	75					4			
1 P. M.			76	74								
2 "			77	74								
3 "			75	74	73°	30·160		N. E.				
4 "			72	74								
5 "			72	74								Got under way and anchored in 28 fms. water, outside the harbour.
6 "			70	73								
7 "			68	73								
8 "			68	73						Clear.	b. w.	
9 "			68	73		30·150						
10 "			68	73					3			
11 "			68	73								
12 "			68	73								
Mean.			70·08	73·79	69·5	30·117						

Harbour of Honolulu.

U. S. SHIP VINCENNES.

HONOLULU ROADS.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 4.												
1 A. M.			66°	74°				N. E.	3	Clear.	b. w.	
2 "			66	74								
3 "			66	74	66°	30·200						
4 "			66	73				N.E.byE.	2			
5 "			66	73				E. N. E.				
6 "			66	73					4		b.	
7 "			70	73								
8 "			70	73						Cum.	b. c.	
9 "			71	73	70°	30·080						
10 "			73	73								
11 "			73	73								The American brig Maryland arrived from Maui.
12 "			74	73								
1 P. M.			76	73				N. E.				
2 "			76	73				N.E.by N				
3 "			74	74	72°	30·080			3			
4 "	Honolulu Roads.		74	75				N. N. E.				
5 "			72	74								
6 "			70	73								
7 "			69	73				N. E.		Clear.	b. w.	
8 "			68	73					4			
9 "			68	73		30·120						
10 "			68	73								
11 "			68	73								
12 "			68	73					3			
Mean.			69·92	73·28	69·33	30·120						
April 5.												
1 A. M.			68°	73°				N. E.	2	Clear.	b. w.	
2 "			68	73								
3 "			67	73	67°	30·100						
4 "			68	73					1			
5 "			68	73						Cir.cum	b. c.	
6 "			68	73				E. N. E.	2			
7 "			71	73								
8 "			72	73								
9 "			73	74	72°	30·100				Cir. stra.	c.	
10 "			74	74								
11 "			74	74								
12 "			75	74								
1 P. M.			77	74					4			
2 "			77	74				N. E.				
3 "			75	74	74°	30·060			5			The Porpoise anchored near us.
4 "	Honolulu Roads.		73	74								
5 "			72	74								
6 "			71	74						Cum.	b. c.	
7 "			70	74					3			
8 "			69	74								
9 "			69	74	69°	30·120			2			
10 "			69	74								Got under way with the Porpoise in company.
11 "			69	74								
12 "			69	74								
Mean.			71·08	73·66	70·5	30·095						

U. S. SHIP VINCENNES.

FROM HONOLULU TO NISQUALLY.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 6.												
1 A. M.			69°	74°				N. E^{d}.	1	Clear.	b. w.	Steering to the westward.
2 "			69	74								
3 "			68	74	65°	30·060						
4 "			68	74					2			
5 "			69	74								
6 "			70	74					1			
7 "			72	74								
8 "			72	74								
9 "			78	75	74°	30·120	76° 60°			Cum. st.	b. c.	
10 "			76	75				Calm.	0			
11 "			78	75								
12 "	22° 17′	158° 35′	78	75								
1 P. M.			76	74				N. E^{d}.	2			Steering to the N. W.
2 "			76	74					4			
3 "			75	74	75°	30·060	74° 60°					
4 "			71	74								Oahu and Kauai in sight.
5 "			71	74						Clear.	b.	
6 "			70	74								
7 "			69	72								
8 "			69	72								
9 "			69	73	67°	30·100	70° 64°			Cum. st.	b. c.	
10 "			67	73					3			
11 "			67	73								
12 "			67	73						Clear.	b. w.	
Mean.			71·41	73·84	70·25	30·850						
April 7.												
1 A. M.			68°	72°				N.E.byE.	3	Clear.	b. w.	Beating to the northward and eastward.
2 "			70	72								
3 "			70	72	67°	30·110						
4 "			70	72				N. E.				
5 "			70	72					4		b.	
6 "			70	73								
7 "			71	73				N.E.by N	3			
8 "			71	73						Cum.	b. c.	Kauai and Oahu in sight.
9 "			72	73	71°	30·100	70° 60°					
10 "			72	74				N. E.				
11 "			72	73								
12 "	22° 11′	159° 10′	72	73								
1 P. M.			72	73								Porpoise in company.
2 "			72	73								
3 "			72	73	70°	30·060	75° 54°			Clear.	b.	
4 "			72	73				N.E.byE.	4			
5 "			72	73					5			
6 "			70	73					4			
7 "			69	73								Kauai in sight to the southward.
8 "			69	73								
9 "			69	74		30·140	69° 65°				b. w.	
10 "			68	74					3			
11 "			70	73								
12 "			70	73								
Mean.			70·54	72·83	69·33	30·102						

U. S. SHIP VINCENNES.

FROM HONOLULU TO DE FUCA'S STRAITS.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 8.												
1 A. M.			68°	73°				N.E.by N	3	Clear.	b. w.	Steering to the northward and westward.
2 "			68	73								
3 "			70	72	69°	30·060						
4 "			70	72								
5 "			70	72								
6 "			71	72					2			
7 "			71	72							b.	
8 "			71	72				N.N.E.				
9 "			72	72	71°	30·160	72° 68°					
10 "			72	72								
11 "			73	73								
12 "	23° 38′	160° 10′	73	73					1			
1 P. M.			73	73								
2 "			70	73				North.				
3 "			70	73	69°	30·080						
4 "			70	73								
5 "			69	73				N. N. W.				
6 "			69	72								
7 "			68	72								Steering to the N. E.
8 "			68	72								
9 "			68	72	67°	30·160				Cum. st.	b. c. w.	
10 "			68	72				N. by W.	3			
11 "			68	72					4			
12 "			68	72								
Mean.			69·91	72·46	68·75	30·115						
April 9.												
1 A. M.			68°	72°				North.	4	Cir. stra.	b. c. w.	Steering to the westward.
2 "			67	72				N. by W.	5			
3 "			67	72	67°	30·120						
4 "			68	72								
5 "			67	71				North.				
6 "			67	71					4		b.	
7 "			69	71								
8 "			69	71								
9 "			68	72	68°	30·100			2			
10 "			68	72								
11 "			69	72					4			
12 "	24° 08′	160° 40′	70	72								The Porpoise in company.
1 P. M.			69	71								
2 "			66	71								
3 "			66	71	66°	30·060		N. by W.	3			
4 "			65	71								
5 "			65	71						Clear.	b.	
6 "			65	71					1			
7 "			65	71				North.				
8 "			65	71					3		b. w.	
9 "			65	72	64°	30·140						
10 "			66	72								
11 "			67	72								
12 "			69	72								
Mean.			67·08	71·5	66·25	30·105						

U. S. SHIP VINCENNES.

FROM HONOLULU TO DE FUCA'S STRAITS.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 10.												
1 A. M.			62°	69°				North.	2	Clear.	b. w.	Steering to the northward and westward.
2 "			61	69								
3 "			61	69	62°	30·100						
4 "			62	69								
5 "			62	69							b.	
6 "			63	69				N. by E.				
7 "			64	69					1			
8 "			67	69					2	Cum.	b. c.	
9 "			66	71	66°	30·160						
10 "			68	71								The Porpoise in company.
11 "			67	71				N. N. E.	1			
12 "	24° 47′	161° 51′	71	71				Calm.	0			
1 P. M.			69	72				North.	1			
2 "			69	72				N. N. W.	2	Clear.	b.	
3 "			69	72	64°	30·160						Steering to the northward and eastward.
4 "			68	72				North.				
5 "			68	72								
6 "			67	72								
7 "			66	72					3			
8 "			66	72								
9 "			65	69	64°	30·200					b. w.	
10 "			64	69								
11 "			65	69								
12 "			65	69					4			
Mean.			65·62	70·33	64	30·155						
April 11.												
1 A. M.			65°	72°				North.	4	Clear.	b. w.	Steering to the northward and eastward.
2 "			65	72								
3 "			65	72	65°	30·200						
4 "			65	72								
5 "			65	70					2			
6 "			65	70							b.	
7 "			66	70								
8 "			68	70				N. N. W.				
9 "			68	70	68°	30·260		NW. by N				
10 "			68	70						Cir. cum	b. c.	
11 "			70	70								
12 "	24° 46′	160° 26′	70	70					3			
1 P. M.			70	72								
2 "			70	72				North.	2			
3 "			70	72	68°	30·160						
4 "			68	72								
5 "			68	72								
6 "			68	72							p. d.	
7 "			68	72					3			
8 "			68	72					2			
9 "			67	72		30·200					b. c. w.	Steering W. N. W.
10 "			66	72								
11 "			66	72								
12 "			66	72								
Mean.			67·29	71·33	67	30·205						

U. S. SHIP VINCENNES.

FROM HONOLULU TO DE FUCA'S STRAITS.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 12.												
1 A. M.			66°	70°				N. N. E.	3	Cir. stra.	b. c. w.	Steering to the N. W.
2 "			65	69								
3 "			64	69	63°	30·160						
4 "			64	69								
5 "			66	69								
6 "			66	69					4			
7 "			68	71								
8 "			68	71						Clear.	b.	
9 "			69	71	68°	30·260						
10 "			70	71					2			
11 "			70	71				N. E.	1			
12 "	25° 34′	160° 24′	70	71				N.E.by N				
1 P. M.			77	72								
2 "			77	72								
3 "			78	72	66°	30·120						
4 "			78	71								
5 "			78	71								
6 "			76	70				Calm.	0			
7 "			66	69								
8 "			66	69				N. N. E.	1			
9 "			65	69	65°	30·200					b. w.	
10 "			64	68								
11 "			63	68								
12 "			63	68								
Mean.			69·04	70	65·5	30·185						
April 13.												
1 A. M.			64°	68°				Calm.	0	Clear.	b. w.	
2 "			64	68								
3 "			64	68	64°	30·100						
4 "			64	68								
5 "			64	68								
6 "			65	68				East.	1			
7 "			66	68				Calm.	0		b.	
8 "			67	69								
9 "			69	69	67°	30·140						
10 "			70	69				E^{d}.	1			
11 "			71	70								
12 "	25° 15′	160° 37′	72	70				Calm.	0			Porpoise in company.
1 P. M.			71	72								
2 "			73	72								
3 "			74	72	*80°	30·080						* In the sun.
4 "			70	72								
5 "			69	71								
6 "			68	71								
7 "			67	70							b. w.	
8 "			65	70								
9 "			66	70	66°	30·160		E^{d}.	1			Steering to the N. N. E.
10 "			66	69								
11 "			66	69					2			
12 "			66	69					1			
Mean.			67·54	69·58	69·25	30·120						

U. S. SHIP VINCENNES.

FROM HONOLULU TO DE FUCA'S STRAITS.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 14.												
1 A. M.			67°	70°				E^{d}.	1	Clear.	b. w.	Steering to the northward.
2 "			67	70								
3 "			67	70	67°	30·100						
4 "			66	70					2			
5 "			66	71							b.	
6 "			67	71								
7 "			69	71								
8 "			69	71				E. S. E.				Course N. by E.
9 "			72	71	71°	30·180			3			
10 "			72	71						Cirrus.	b. c.	
11 "			72	71					2			
12 "	26° 43′	160° 24′	72	71								
1 P. M.			75	73								
2 "			75	73					3			
3 "			74	73	73°	30·120		S. E^{d}.				
4 "			72	70								
5 "			69	70						Clear.	b.	
6 "			68	70					2			
7 "			68	70								
8 "			67	70				E. S. E.			b. w.	
9 "			68	68	67°	30·200						
10 "			67	70								
11 "			67	70					3			
12 "			67	70								
Mean.			69·29	70·62	69·5	30·150						
April 15.												
1 A. M.			68°	68°				S. E.	3	Clear.	b. w.	Course N. by E.
2 "			68	68								
3 "			68	68	67°	30·180						
4 "			67	68				S. S. E.				
5 "			67	68						Cum.	b. c.	
6 "			67	68								
7 "			67	68					4			
8 "			68	68								
9 "			68	68	67°	30·260						
10 "			71	68				S^{t}.				The Porpoise in company.
11 "			71	68								
12 "	28° 28	159° 33′	71	68						Clear.	b.	
1 P. M.			71	68					5			
2 "			71	68								
3 "			71	68	71°	30·240		S. W.	4			Course N. E. by N.
4 "			71	68								
5 "			68	68						Hazy.	b. m.	
6 "			68	68								
7 "			68	68				South.			b.	
8 "			68	68							b. m.	
9 "			68	68	66°	30·320						
10 "			68	68				S. by E.				
11 "			68	68								
12 "			68	68								
Mean.			68·71	68	67·75	30·250						

U. S. SHIP VINCENNES.

FROM HONOLULU TO DE FUCA'S STRAITS.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 16.												
1 A. M.			67°	68°				S. S. E.	4	Clear.	b. w.	Course N. E. by N.
2 "			67	68								
3 "			66	67	65°	30·340			5			
4 "			66	67								
5 "			67	67								
6 "			68	67							b.	
7 "			67	65								
8 "			67	65								
9 "			67	65	65°	30·360			4			
10 "			67	64								
11 "			67	64								
12 "	30° 15′	157° 03′	67	64								
1 P. M.			68	64								The Porpoise in company.
2 "			68	64						Over-	o. m.	
3 "			67	65	69°	30·340				cast.		
4 "			67	65					3			
5 "			67	65								
6 "			65	65								
7 "			65	65				S. E.		Clear.	b. w.	
8 "			65	64								
9 "			65	64	62°	30·420			2			
10 "			65	65					3			
11 "			64	64								
12 "			64	64								
Mean.			66·39	65·21	65·25	30·365						
April 17.												
1 A. M.			64°	64°				S. E.	3	Clear.	b. w.	Course N. E. by N.
2 "			64	64								
3 "			64	64	63°	30·380						
4 "			64	64								
5 "			63	63								
6 "			64	63					2		b.	
7 "			64	63						Cum.	b. c.	
8 "			65	63						in hori-		
9 "			66	63	65°	30·400		S. by E.	3	zon.		
10 "			66	64								
11 "			66	64								
12 "	31° 11′	155° 33′	67	64					2			
1 P. M.			67	66						Clear.	b.	
2 "			66	66				S. S. E.				
3 "			67	66	66°	30·380						School of porpoises seen.
4 "			70	66								
5 "			72	66								
6 "			68	66								
7 "			65	65							b. w.	
8 "			65	65								
9 "			64	63	63°	30·440			1			Heard the cries of birds.
10 "			64	63								
11 "			64	63								
12 "			64	63								
Mean.			65·54	64·21	64·25	30·400						

U. S. SHIP VINCENNES.

FROM HONOLULU TO DE FUCA'S STRAITS.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 18.												
1 A. M.			63°	63°				S. S. E.	2	Clear.	b. w.	Course N. E. by N.
2 "			62	62								
3 "			61	62	60°	30·360						
4 "			61	62								
5 "			62	63					3			
6 "			62	63				South.				
7 "			63	63								
8 "			64	63								Saw a quantity of janthina and a fin-back whale.
9 "			64	64	63°	30·380		S. by W.				
10 "			65	64								
11 "			65	64								
12 "	32° 11′	154° 14′	64	64						Cum. st.	b. c.	
1 P. M.			65	65				S. S. W.	2			
2 "			65	65								
3 "			65	65	63°	30·320			3			
4 "			65	65					2			School of porpoises.
5 "			64	65						Cum.	b. c.	
6 "			64	64								
7 "			64	63				South.				
8 "			64	63					3			
9 "			62	63	61°	30·340					b. c. w.	
10 "			61	63					2			
11 "			61	63								
12 "			61	63								
Mean.			63·21	63·5	61·75	30·350						
April 19.												
1 A. M.			61°	61°				S. S. W.	3	Clear.	b. w.	Course N. E. by N.
2 "			61	61								
3 "			61	61	60°	30·250						
4 "			61	61						Cir.cum	b. c.	
5 "			61	61				West.				
6 "			61	62								Passed some sea-weed.
7 "			62	62								
8 "			62	62						Nimbus	c.	
9 "			63	62		30·280		N. N. W.				
10 "			63	62							c. p.	
11 "			59·5	62					4			
12 "	33° 12′	152° 56′	59·5	61								The Porpoise in company.
1 P. M.			59	60				North.	5			
2 "			57	60					6		c.	Steering to the northward and westward.
3 "			56	60	56°	30·340		N.E.byE.	7			
4 "			56	60								Saw a quantity of anatifa.
5 "			56	59					6			
6 "			55	59				N. N. E.				
7 "			55	60								
8 "			54	60								
9 "			54	59	53°	30·360						
10 "			54	58								
11 "			54	58								
12 "			54	58								
Mean.			58·29	60·79	56·33	30·306						

U. S. SHIP VINCENNES.

FROM HONOLULU TO DE FUCA'S STRAITS.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Diree.	Force.	Clouds.	Weather.	Remarks.
April 20.												
1 A. M.			55°	57°				N. N. E.	6	Cum. st.	c.	Steering to the northward and westward.
2 "			55	57								
3 "			55	57	53°	30·380						
4 "			55	57								
5 "			54	57								
6 "			53	57				N.E.byN	4	Clear.	b. .	
7 "			54	57								Surface of the sea covered with anatifa and villella.
8 "			55	57								
9 "			55	57	57°	30·400						
10 "			55	57								
11 "			56	57				N.E.byE.				
12 "	34° 42′	153° 39′	56	58					3			
1 P. M.			55	57					4			Many frigate-birds, &c., about.
2 "			56	57								
3 "			55	57	54°	30·400						
4 "			54	57								
5 "			53	57								The Porpoise in company.
6 "			52	56								
7 "			52	56								
8 "			52	56								
9 "			53	56	51°	30·400		E. by N.		Cum.	c.	
10 "			53	56								
11 "			53	55								
12 "			53	55				East.				
Mean.			54·12	56·66	53·75	30·395						
April 21.												
1 A. M.			54°	55°				East.	4	Cum.	b. c.	Course N. N. E.
2 "			53	55								
3 "			53	55	52°	30·400						
4 "			53	55				E. by S.				
5 "			53	55						Clear.	b.	
6 "			53	55								
7 "			55	56					5			Sea covered with villella, many birds about.
8 "			56	56								
9 "			56	56	54°	30·400				Nimbus	c.	
10 "			56	56								
11 "			56	55					6			
12 "	37° 14′	152° 21′	56	55								
1 P. M.			56	55				E. S. E.		Cum. st.		
2 "			55	55					7			
3 "			55	55	53°	30·340						Saw some stormy petrel.
4 "			55	55								
5 "			55	54								
6 "			55	54							c. m.	
7 "			54	54								
8 "			54	54								
9 "			54	54	52·5	30·340			6			
10 "			54	54					7			
11 "			54	54								
12 "			54	54								
Mean.			54·71	54·83	52·87	30·370						

U. S. SHIP VINCENNES.

FROM HONOLULU TO DE FUCA'S STRAITS.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 22.												
1 A. M.			56°	55°				E. S. E.	7	Stratus.	c.	Course N. N. E.
2 "			56	55								
3 "			57	55	55°	30·410				Over-	o.	
4 "			57	55						cast.		
5 "			56	55					6			
6 "			56	55								Sea covered with villella, many albatross, petrels, and snipe about the ship.
7 "			57	55								
8 "			57	55				E. by S.				
9 "			57	55	56°	30·400						
10 "			56	54						Stratus.	c.	
11 "			57	54								
12 "	40° 01′	149° 25′	57	54					7			
1 P. M.			56	52								
2 "			56	52				E. S. E.				
3 "			56	52	56°	30·350						
4 "			56	52				S. E.	8			
5 "			54	52								
6 "			54	52								
7 "			54	52								
8 "			55	52								
9 "			55	52	55°	30·360						
10 "			54	52								
11 "			54	51					7	Over-	o.	Water very phosphorescent.
12 "			54	51						cast.		
Mean.			55·71	53·29	55·5	30·380						
April 23.												
1 A. M.			54°	53°				S. E.	7	Over-	o.	Course N. N. E.
2 "			54	53						cast.		Water phosphorescent.
3 "			54	52	53°	30·400						
4 "			54	52								
5 "			53	50								
6 "			53	50								
7 "			54	51						Stratus.	c.	Course N. E.
8 "			54	51								
9 "			55	51		30·380		S. S. E.				Quantities of villella and several flocks of snipe, petrel, &c., seen.
10 "			55	51								
11 "			55	51					6	Cum. st.	b. c.	
12 "	43° 00′	146° 07′	55	51								
1 P. M.			55	51				S.E. by S.				Course N. E. by N.
2 "			54	51					7	Over-	o.	
3 "			54	51	53°	30·400				cast.		
4 "			53	51								
5 "			53	51								
6 "			53	51								
7 "			53	51								
8 "			53	51						Hazy.	o. m.	
9 "			53	51	52°	30·380						
10 "			53	51					6			
11 "			53	51								
12 "			53	51								
Mean.			53·75	51·17	52·66	30·390						

U. S. SHIP VINCENNES.

FROM HONOLULU TO DE FUCA'S STRAITS.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 24.												
1 A. M.			52°	51°				S. S. E.	6	Cum. st.	b. c. w.	Course N. E. by N.
2 "			51	50								
3 "			51	50	50°	30·400						
4 "			51	50								
5 "			51	50				South.				
6 "			52	50								
7 "			52	50								
8 "			53	50					5		b. c. m.	
9 "			54	50	53°	30·400			6			
10 "			54	50					5			
11 "			54	50					6			
12 "	44° 31′	142° 02′	54	50				S. E.				The Porpoise in company.
1 P. M.			54	50								
2 "			53	50								
3 "			53	50	52°	30·420						Course N. E.
4 "			53	50						Foggy.	f.	
5 "			53	50					5			
6 "			52	50						Stratus.		
7 "			51	50								
8 "			51	50							F.	
9 "			50	50	48°	30·460						
10 "			50	51				S. S. E.			f.	
11 "			50	49								
12 "			50	49				South.		Cum. st.	c. m.	
Mean.			52·04	50	50·75	30·420						
April 25.												
1 A. M.			50°	49°				South.	5	Cum. st.	c. m.	Course N. E.
2 "			50	49								
3 "			50	49	50°	30·400		S. S. W.				
4 "			50	49								
5 "			50	49								
6 "			50	49					4			
7 "			51	49								
8 "			51	49						Hazy.	m.	
9 "			51	49	50°	30·420		S. W.				
10 "			51	49								
11 "			51	49					5			
12 "	45° 56′	138° 00′	51	50				W^{d}.				
1 P. M.			50	49						Cum. st.	b. c. m.	
2 "			49	49								Course E. N. E.
3 "			49	49	49°	30·480		W. N. W.				
4 "			48	49								
5 "			47	49					4			
6 "			46	48								
7 "			46	49					6			
8 "			47	49						Over-	o.	
9 "			47	49	46°	30·480				cast.		
10 "			47	49						Clear.	b.	
11 "			47	49								
12 "			47	49								
Mean.			49	49	48·75	30·445						

U. S. SHIP VINCENNES.

FROM HONOLULU TO DE FUCA'S STRAITS.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 26.												
1 A. M.			46°	49°				W. N. W.	5	Cirrus.	b. c.	Course E. N. E.
2 "			46	49								
3 "			46	49	45°	30·500						
4 "			46	49								
5 "			47	49					4	Cir. stra.		
6 "			47	49								
7 "			47	49								Saw a whale and some petrel.
8 "			47	49								
9 "			48	50	47°	30·520						
10 "			48	50								
11 "			48	50				N. W^{d}.				
12 "	45° 28′	132° 57′	48	50								
1 P. M.			47	49								The Porpoise in company.
2 "			47	49								
3 "			47	49	46°	30·520			6			Course N. E.
4 "			47	49					7			
5 "			46	49								Sperm whales seen.
6 "			46	49					8			
7 "			46	49								
8 "			46	49						Stratus.	c.	
9 "			46	49	45°	30·400				Over-	o.	
10 "			46	49						cast.		
11 "			46	48								
12 "			46	48								
Mean.			46·66	49·08	45·75	30·485						
April 27.												
1 A. M.			45°	47°				N. W.	8	Over-	o. q.	Course N. E.
2 "			44	47						cast.		
3 "			45	47	50°	30·300						
4 "			45	47								
5 "			44	48						Stratus.	c. q.	
6 "			45	48					9			
7 "			46	48					8			
8 "			46	48								
9 "			46	48	44°	30·500					b. c. q.	
10 "			47	48								
11 "			47	48				NWbyW				
12 "	46° 10′	128° 13′	47	48								
1 P. M.			47	48					7			
2 "			47	48					8			Course N. E. by E.
3 "			47	48	50°	30·480						
4 "			47	48							c. u.	
5 "			46	49				W. N. W.				
6 "			46	49								
7 "			47	48								
8 "			47	48								
9 "			46	48	45°	30·250				Cir. stra.	c.	
10 "			46	48								
11 "			47	49								
12 "			47	49					6			
Mean.			46·12	48	47·25	30·382						

U. S. SHIP VINCENNES.

FROM HONOLULU TO DE FUCA'S STRAITS.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 28.												
1 A. M.			46°	49°				N. W^{d}.	5	Cir.cum	c. u.	Course N. E. by E.
2 "			47	49				W.N.W.				
3 "			47	49	47°	30·200				Nimbus		
4 "			45	49				West.			c. p.	
5 "			46	49								Made land to the eastward.
6 "			46	49								
7 "			46	49				S. S. W.	6			
8 "			46	49						Cir.cum		
9 "			47	48	46°	30·280					c.	
10 "			47	48								
11 "			48	48					4			
12 "	46° 20′	124° 21′	48	48								Cape Disappointment in sight.
1 P. M.			46	49				S. by W.				
2 "			46	48								
3 "			47	48	48°	30·280						Steering to the northward and westward.
4 "			48	48					7	Nimbus		
5 "			48	48				S. W.				The Porpoise in company.
6 "			48	48					8		c. u.	
7 "			48	49								
8 "			48	49								
9 "			48	49	47°	30·180						
10 "			47	49					7			
11 "			47	49								
12 "			47	49								
Mean.			46·96	48·62	47	30·235						
April 29.												
1 A. M.			49°	49°				S. W.	8	Nimbus	c. u.	Steering to the westward under easy sail.
2 "			49	49								
3 "			47	49	46°	30·100						
4 "			47	49							c. d. f.	
5 "			47	48					7			
6 "			47	48								
7 "			47	48					4			
8 "			47	48								Passing patches of kelp.
9 "			47	48	44°	30·100					F.	
10 "			47	47					3			
11 "			47	47							f.	
12 "	47° 21′	124° 15′	47	47					1			Point Grenville in sight.
1 P. M.			47	47							m.	
2 "			45	47					2			
3 "			45	47	44°	30·100			1			Sounded in 5 fathoms water.
4 "			44	47						Stratus.	c.	
5 "			44	47								The Porpoise in company.
6 "			44	47				Calm.	0			
7 "			44	47							f.	
8 "			44	47								
9 "			44	47	42°	30·080					F.	
10 "			44	47				S. W.	1			
11 "			44	47								
12 "			44	47				Calm.	0			
Mean.			45·87	47·54	44	30·095						

U. S. SHIP VINCENNES.

FROM HONOLULU TO DE FUCA'S STRAITS.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 30.												
1 A. M.			44°	47°				Calm.	0	Over-cast.	F. d.	
2 "			44	46								
3 "			43	46	44°	30·060	Rain.	N. E.	1			
4 "			46	46								
5 "			46	46								
6 "			44	46					3			Steering to the northward and westward.
7 "			43	46								Land in sight to the northward and eastward.
8 "			46	46								
9 "			47	46		30·020			4		f.	
10 "			48	46								
11 "			49	46						Cirrus.	c. m.	The Porpoise in company.
12 "	47° 38′	124° 36′	49	46								
1 P. M.			49	48					5	Clear.	b.	
2 "			49	48				E. N. E.				
3 "			49	48		30·020						
4 "			47	47				East.	4	Over-cast.	d.	Cape Flattery in sight.
5 "			46	47								
6 "			46	47								
7 "			45	46							d. F. q.	
8 "			45	46				E. N. E.	5			
9 "			45	46	43°	30·020	Rain.		4		d.	
10 "			45	46								
11 "			44	46								
12 "			44	46								
Mean.			45·96	46·41	43·5	30·030						
May 1.												
1 A. M.			44°	46°				E^{d}.	4	Over-cast.	f. r.	Beating up for De Fuca's Straits under easy sail.
2 "			44	46								
3 "			44	46	44°	29·820	Rain.		5			
4 "			44	46								
5 "			44	46					4		F. r.	
6 "			45	46					3			Land in sight to the eastward.
7 "			45	46								
8 "			45	46						Cir.cum	c.	
9 "			45	46	45°	29·750		E. S. E.	2			
10 "			46	46				West.	3		c. d.	Course E. by N.
11 "			46	46				South.				
12 "			46	46								
1 P. M.			47	47						Clear.	b.	
2 "			50	47				Var.				
3 "			49	47	45°	29·780						
4 "			47	47				N^{d}. & W^{d}.	2	Over-cast.	f. r.	
5 "			45	47								
6 "			45	47								
7 "			45	47						Cir.cum	c.	
8 "			45	47								
9 "			44	46	44°	29·780						
10 "			44	46								
11 "			43	46								
12 "			43	46								
Mean.			45·21	46·33	44·5	29·782						

De Fuca's Straits.

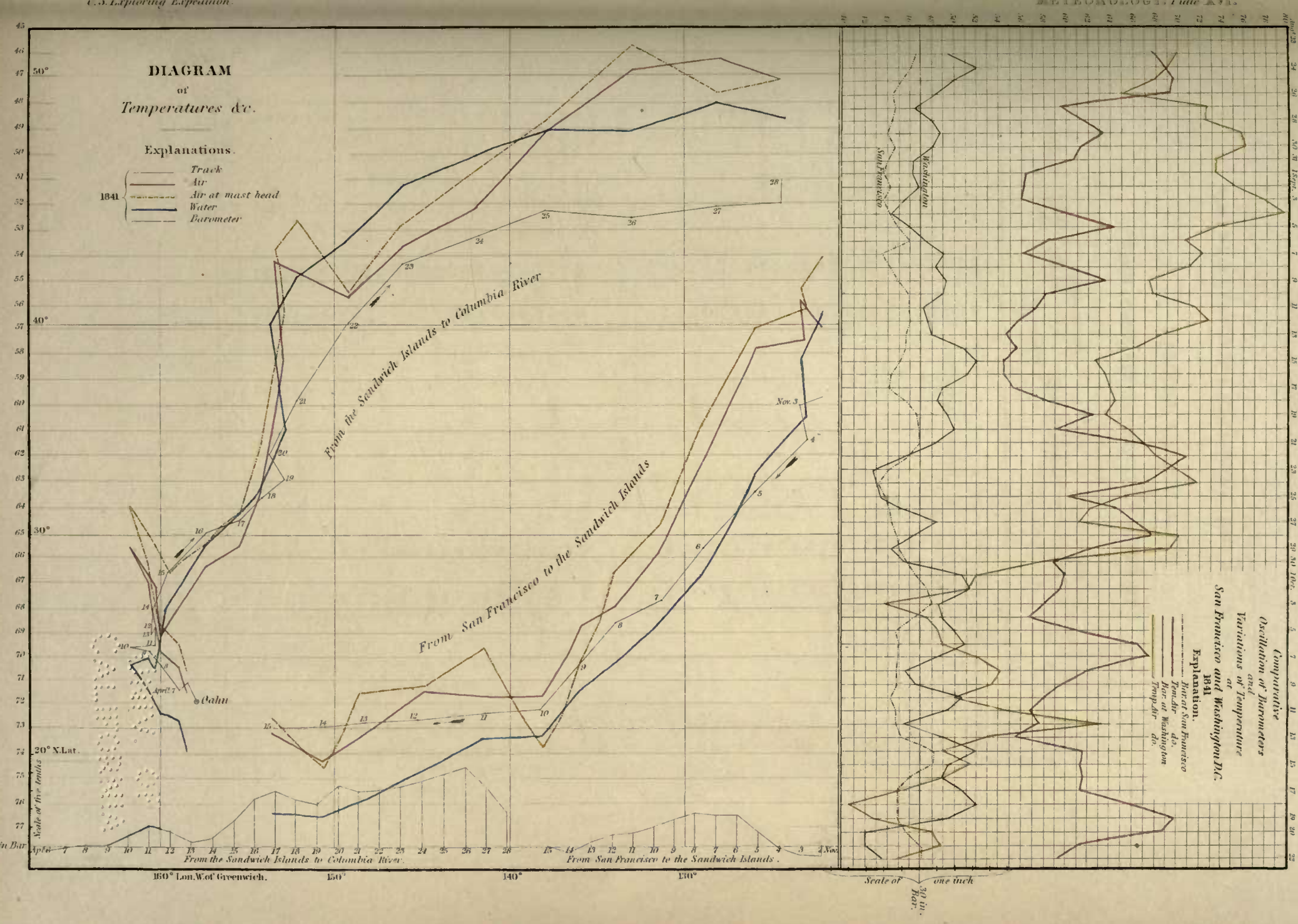


DIAGRAM
of
Temperatures &c.
Explanations.
1841
Track
Air
Air at mast head
Water
Barometer
From the Sandwich Islands to Columbia River
From San Francisco to the Sandwich Islands
Oahu
April 7
Nov. 3
50°
40°
30°
20° N.Lat.
Scale of five tenths
In Bar.
From the Sandwich Islands to Columbia River.
From San Francisco to the Sandwich Islands.
160° Lon. W. of Greenwich.
150°
140°
130°
Comparative
Oscillation of Barometers
and
Variations of Temperature
at
San Francisco and Washington D.C.
1841
Explanation.
Bar. at San Francisco
Tem. dit. do.
Bar. at Washington
Tem. dit. do.
San Francisco
Washington
Scale of
one inch
30 in. Bar.

U. S. SHIP VINCENNES.

PORT DISCOVERY, OREGON TERRITORY.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 2.												
1 A. M.			43°	46°				South.	1	Clear	b. m.	In De Fuca's Straits, steering to the eastward.
2 "			43	46						over		
3 "			43	46	45°	29·780				head.		
4 "			43	46				Calm.	0			
5 "			43	46								
6 "			43	46							b.	
7 "			44	46				Var.	1			
8 "			44	46				Calm.	0			
9 "			47	47	47°	29·780						
10 "			49	47								
11 "			47	47				South.	1	Cir. stra.	b. c.	
12 "			49	47								
1 P. M.			48	47								
2 "			48	47				Calm.	0			
3 "			46	46	46°	29·820						
4 "			46	46				W^d.	2			
5 "			46	47								
6 "			47	47				N. W.	4			
7 "			45	47						Clear.	b. w.	
8 "			47	48								Anchored in Port Discovery in 27 fathoms water.
9 "			46	51	46°	29·920						
10 "			46	48								
11 "			44	48					2			
12 "			44	48								
Mean.			45·44	46·93	46	29·825						
May 3.												
1 A. M.			44°	48°				W^d.	1	Clear.	b. w.	
2 "			44	48				Calm.	0			
3 "			43	48	45°	29·990				Nimbus	c.	
4 "			43	48				South.	1		p. d.	
5 "			44	48								
6 "			45	48								
7 "			47	48				Calm.	0			
8 "			48	49								
9 "			48	49		30·120						
10 "			48	49				N. W^d.	2			
11 "			49	50								
12 "			50	50						Cir.cum	c.	
1 P. M.			51	50								
2 "			51	50					4			
3 "			51	50		30·180						
4 "			51	50								
5 "			51	50								
6 "			49	49					2		c. p.	
7 "			47	47								
8 "			47	47								
9 "			47	47		30·180	Rain.	Var.	1			
10 "			46	47							p. d.	
11 "			44	47								
12 "			44	47								
Mean.			47·16	48·5	45	30·142						

De Fuca's Straits.

Port Discovery.

U. S. SHIP VINCENNES.

ADMIRALTY INLET, OREGON TERRITORY.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 8.												
1 A. M.			49°	48°				S. S. E.	5	Nimbus	c.	
2 "			49	48								
3 "			48	48	48°	29·840						
4 "			49	48								
5 "			46	48						Cir. stra.		Boats surveying Port Lawrence.
6 "			46	48								
7 "			47	48				S. E.				
8 "			52	48					6			
9 "			53	48	52°	29·970		S. S. E.	5			
10 "			53	48								
11 "			56	48						Over-cast.	o.	Got under way with the Porpoise, beating up Admiralty Inlet.
12 "			56	48								
1 P. M.			56	48								
2 "			56	48								
3 "			56	48	54°	29·970				Cir. stra.	c.	
4 "			56	48								
5 "			55	48				S. E.	4			Anchored in Pilot's Cove, in 15 fathoms water.
6 "			55	48						Stratus.		
7 "			55	48				S. E. by S.				
8 "			53	48				S. S. E.		Over-cast.	o.	Boats surveying.
9 "			53	48	52°	29·960						
10 "			52	48								
11 "			52	48					5		o. m.	
12 "			52	48								
Mean.			52·29	48	51·5	29·935						
May 9.												
1 A. M.			50°	48°				S. S. E.	5	Over-cast.	o. m.	
2 "			52	48								
3 "			52	48	50°	30·040					o.	
4 "			52	48								Got under way.
5 "			53	48					4			
6 "			53	48								
7 "			53	48						Cir. stra.	c.	Anchored in Apple-tree Cove, in 16 fathoms water.
8 "			54	48					5			
9 "			54	48	55°	30·080		S. E.				
10 "			55	48								Boats surveying.
11 "			57	48								
12 "			61	49				S. E. by S.	4		b. c.	
1 P. M.			63	49								Got under way.
2 "			55	49								
3 "			53	49	57°	30·120						
4 "			55	50						Clear.	b.	
5 "			56	50				S. E.	3			
6 "			56	50				S. E. by E.				
7 "			56	50								Anchored in Port Madison, in 12 fathoms water.
8 "			55	50				S. S. E.		Cirrus.	b. c.	
9 "			54	48		30·140			4			
10 "			50	48								
11 "			51	48								
12 "			49	48								
Mean.			53·29	48·58	54	30·095						

U. S. SHIP VINCENNES.

ADMIRALTY INLET, OREGON TERRITORY.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 10.												
1 A. M.			52°	49°				S. E.	3	Clear.	b. w.	
2 "			52	49								
3 "			52	49	51°	30·120						
4 "			52	49					2			
5 "			50	49							b.	
6 "			51	50								
7 "			51	50				Var.	1			Boats surveying Port Madison.
8 "			51	50						Cir. stra.	b. c.	
9 "			50	50	50°	30·200				Stratus.		
10 "			50	50								
11 "			60	51				N. W.			c.	
12 "			60	52					2			
1 P. M.			63	54								
2 "			63	54								Got under way and stood up the inlet with the Porpoise.
3 "			56	50	55°	30·160						
4 "			55	50				Calm.	0	Cum. st.	b. c.	
5 "			56	50								
6 "			55	50								
7 "			55	50				S. E.	2			
8 "			55	50						Cir. stra.		Anchored in 15 fms. water, between Vashon's Island and the main land.
9 "			55	50		30·000		S. S. E.	3	Stratus.	c.	
10 "			55	48								
11 "			50	48								
12 "			48	48						Cum. st.	b. c.	
Mean.			54·04	50	52	30·120						
May 11.												
1 A. M.			50°	49°				S. E.	3	Cum. st.	b. c.	
2 "			50	49								
3 "			50	49		30·040						
4 "			50	49				S. S. E.				
5 "			52	49				South.				
6 "			52	49								
7 "			52	49				S. S. W.	4			Boats surveying.
8 "			52	49						Clear.	b.	
9 "			60	49	58°	30·000						
10 "			62	49				S. W.				
11 "			65	49								
12 "			66	50					3			
1 P. M.			67	50								
2 "			68	50								Got under way.
3 "			69	50	68°	30·020		S. S. W.				
4 "			69	50					2			Passed through the Narrows, between Admiralty Inlet and Puget Sound.
5 "			68	50						Cum.	b. c.	
6 "			64	50					3			
7 "			60	50				South.		Stratus.	c.	
8 "			58	50								Anchored off Fort Nisqually in 34 fathoms water, the Porpoise in company.
9 "			56	50	55°	30·020			2			
10 "			55	50				Var.	1			
11 "			53	50								
12 "			52	50				Calm.	0			
Mean.			58·33	49·54	53·66	30·020						

U. S. SHIP VINCENNES.

NISQUALLY, PUGET SOUND.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 12.												
1 A. M.			51°	50°				Calm.	0	Stratus.	c.	
2 "			51	50						Over-	o.	
3 "			51	50	50°	30·040				cast.		
4 "			52	50								Got under way, and anchored in 20 fathoms water.
5 "			53	50						Cir. stra.	b.	
6 "			54	51								
7 "			57	51						Cirrus.	b. c.	
8 "			60	51								
9 "			60	54	58°	30·100		N. W.	2			
10 "			61	55								
11 "			61	55								
12 "			61	55				North.				
1 P. M.			62	55								
2 "			63	56				N. N. E.	3			
3 "			59	51		30·080				Cir. stra.		
4 "			63	51					4			
5 "			65	51								
6 "			63	51				N. E.				
7 "			57	52					3			
8 "			57	52					2	Stratus.	c.	
9 "			55	52	55°	30·060		Calm.	0	Cir. stra.		
10 "			55	52								
11 "			54	52						Clear.	b. w.	
12 "			54	52								
Mean.			57·46	52·04	54·33	30·070						
May 13.												
1 A. M.			53°	50°				Calm.	0	Clear.	b. w.	
2 "			52	50								
3 "			48	50	47°	30·040						
4 "			50	50								
5 "			51	50								
6 "			52	50								
7 "			53	51							b.	
8 "			56	51								
9 "			57	54	60°	30·020		S. S. E.	1			
10 "			62	54					2			
11 "			63	55								
12 "			63	57								
1 P. M.			63	57					3			
2 "			62	57								
3 "			62	57	61°	29·940			2			
4 "			61	57				Var.	1			
5 "			61	57								
6 "			61	57								
7 "			60	57							b. w.	
8 "			59	56				Calm.	0			
9 "			56	56	54°							
10 "			55	56				Var.	1			
11 "			51	56								
12 "			51	56				Calm.	0			
Mean.			56·75	54·21	55·5	30·000						

Nisqually Harbour.

Nisqually Harbour.

U. S. SHIP VINCENNES.

NISQUALLY, PUGET SOUND.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 14.												
1 A. M.			48°	52°				East.	1	Clear.	b. w.	
2 "			48	52								
3 "			45	52	48°							
4 "			45	52				Calm.	0			
5 "			45	49							b.	
6 "			48	49								
7 "			49	51				N^{d}.	1	Stratus.	c.	
8 "			56	52								
9 "			62	53	62°				2			
10 "			68	55								
11 "			67	55								Preparing the Observatory.
12 "			67	53								
1 P. M.			69	55				N. W.				
2 "			69	55								
3 "			69	55	60°	29·780		West.				
4 "			68	55						Over-	o.	
5 "			61	54					4	cast.		
6 "			56	54								
7 "			49	53				S. W.			r.	
8 "			49	52					5			
9 "			48	49	55°	29·940	Rain.				o. q. r.	
10 "			46	49				S. S. W.				
11 "			46	49					6			
12 "			46	48				S. S. E.			o. q.	
Mean.			55·16	52·21	56·25	29·860						
May 15.												
1 A. M.			42°	51°				S. E.	4	Stratus.	c. q.	
2 "			42	51								
3 "			45	49	44°	29·960		S. S. E.			c.	
4 "			45	49						Over-	o.	
5 "			45	49				S. W.	3	cast.	o. p.	
6 "			47	50								
7 "			45	50					2			
8 "			57	50				Var.	1			
9 "			51	50	49°	29·950						
10 "			51	50						Cir. stra.	c.	
11 "			57	50							b. c.	
12 "			57	50				S. E.	3			
1 P. M.			63	52								
2 "			68	52								
3 "			66	52	66°	29·940				Cirrus.		The Porpoise got under way, and stood up the Sound.
4 "			57	52								
5 "			55	52					4			
6 "			54	52								
7 "			53	51					3	Cir. stra.		
8 "			51	51				S. S. E.				
9 "			49	57	49°	30·000		S. by E.	4			
10 "			46	59				S. E.				
11 "			46	51								
12 "			46	51				S. by E.				
Mean.			51·33	51·29	52	29·962						

Nisqually Harbour.

U. S. SHIP VINCENNES.

NISQUALLY, PUGET SOUND.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 16.												
1 A. M.			46°	51°				South.	3	Cir. stra.	b. c.	
2 "			46	51				S. W.				
3 "			45	51	44°	30·020						
4 "			44	51								
5 "			43	48				S. S. W.	4			
6 "			45	48								
7 "			48	49								
8 "			48	49					2	Over-cast.	o.	
9 "			55	51	52°	30·080						
10 "			55	52				North.	1		d.	
11 "			56	51								
12 "			57	51								
1 P. M.			57	53								
2 "			57	53						Cir. stra.	c.	
3 "			57	53	56°	30·100		S. W.	3		b. c.	
4 "			56	50								
5 "			55	51								
6 "			55	51						Cum. st.	c.	
7 "			54	55					4			
8 "			49	50						Nimbus		
9 "			47	50	45°	30·160	Rain.	S. S. W.			c. p.	
10 "			48	50					3			
11 "			48	50								
12 "			48	50					2			
Mean.			50·79	50·79	49·25	30·090						
May 17.												
1 A. M.			47°	50°				S. S. W.	2	Nimbus	c. p.	
2 "			48	50							c.	
3 "			48	50	47°	30·200						
4 "			48	50								
5 "			50	50					4			
6 "			50	50						Cum. st.	b. c.	
7 "			52	50								
8 "			55	50						Nimbus	c.	
9 "			57	50	55°	30·200		S. W.				
10 "			59	49					5		c. p.	
11 "			54	50								
12 "			52	50								
1 P. M.			54	55				S. W. by S.		Cum. st.	b. c.	
2 "			57	50								
3 "			52	56	50°	30·200			4			
4 "			52	50				S. S. W.				Boats left on surveying duty.
5 "			52	52								
6 "			52	52					3			
7 "			52	52								
8 "			51	52				S. W.		Clear.	b. w.	
9 "			50	51	47°	30·200						
10 "			49	51					2			
11 "			48	51								
12 "			48	51				S. S. W.				
Mean.			50·15	50·92	49·75	30·200						

Nisqually Harbour.

U. S. SHIP VINCENNES.

NISQUALLY, PUGET SOUND.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 18.												
1 A. M.			45°	50°				S. S. W.	2	Clear.	b. w.	
2 "			45	50								
3 "			43	50	42°	30·300		Calm.	0			
4 "			41	50				Var.	1			
5 "			41	48							b.	
6 "			42	49								
7 "			43	49				E^{d}.	2			
8 "			44	50								
9 "			52	51	50°	30·400				Cirrus.	b. c.	
10 "			60	51								
11 "			63	51				E. N. E.		Cir. stra.		Preparing the Observatory.
12 "			65	51								
1 P. M.			66	51								
2 "			65	51				N. E.				
3 "			67	51	67°	30·300				Cirrus.		
4 "			64	51								
5 "			63	52								
6 "			58	52				Calm.	0			
7 "			56	52								
8 "			56	52							b. c. w.	
9 "			56	50	65°	30·200		N. E.	2			
10 "			54	50								
11 "			52	50								
12 "			51	50					1			
Mean.			58·83	50·5	53·25	30·300						
May 19.												
1 A. M.			49°	50°				Calm.	0	Cirrus.	b. c. w.	
2 "			48	50								
3 "			48	50	47°	30·080						
4 "			48	50						Clear.		
5 "			48	50							b.	
6 "			50	50								
7 "			51	50								
8 "			54	50								
9 "			62	51	61°	30·000						
10 "			64	51				S. S. W.	3	Cir. stra.	b. c.	
11 "			65	51						Over-	o.	
12 "			61	51						cast.		
1 P. M.			53	51				S. W.	4		q. p.	
2 "			52	51								
3 "			56	51	53°	30·040						
4 "			57	50								
5 "			57	50					5			
6 "			56	50				S. S. W.	6			
7 "			54	50								
8 "			49	50								
9 "			49	50	48°	30·040		South.			p. d.	
10 "			49	50					4			
11 "			49	50				S. by W.				
12 "			49	50						Cir. stra.	c.	
Mean.			53·25	50·29	52·25	30·040						

U. S. SHIP VINCENNES.

NISQUALLY, PUGET SOUND.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 20.												
1 A. M.			49°	50°				S. S. E.	3	Cir. stra.	c.	
2 "			49	50								
3 "			47	50	45°	30·040						
4 "			48	50					5			
5 "			48	50						Over-	o.	
6 "			48	50				S. S. W.		cast.		
7 "			47	50					6			
8 "			50	50							r.	
9 "			51	50	45°	30·080	Rain.					
10 "			50	50				S. W.	7		q. p.	
11 "			53	50					6			
12 "			53	50					8			
1 P. M.			51	50					5			Moving the instruments to the Observatory.
2 "			51	50								
3 "			52	50	45°	30·100					o.	
4 "			52	50						Cir. stra.		
5 "			52	50				S. S. W.			c.	
6 "			51	50				S. by W.				
7 "			50	50								
8 "			48	50					4			
9 "			48	50		30·200						
10 "			47	50				S. S. E.	3		b. c.	
11 "			47	49								
12 "			47	49								
Mean.			49·54	49·92	45	30·105						

Nisqually Harbour.

OBSERVATORY.

INSTRUMENTS USED ON SHORE.

Barometer, standard.

Attached thermometer.

Thermometer, with bulb covered with lampblack.

" " " black wool.

" " " white wool.

" " uncovered.

Temperature of water, and thermometer at mast-head, observed on board U. S. Ship Vincennes.

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
May 21.													
1 A. M.							50°			S. E.	2	Cum. st.	b. c.
2 "							49						
3 "							49	45°					
4 "							49						
5 "							48				4	Cir. stra.	
6 "							49						
7 "							49						
8 "							49						
9 "							50	49°					
10 "							50				3		
11 "							50						
12 "							50			N. N. W.	2	Clear.	b.
1 P. M.	30·256	67°	63°	67°		60°	50						
2 "	·256	68	64	73		62	50						
3 "	·258	66	64	72		62	50	68°		North.			
4 "	·254	64	63	70		61	50						
5 "	·256	62	60	64		59	50						
6 "	·256	62	54	56		54	50			Calm.	0		
7 "	·256	62	52	54		52	50						b. w.
8 "	·256	54	52	52		52	50						
9 "							50	48°					
10 "							50						
11 "							50						
12 "							50						
Mean.	30·256	63·12	59	63·5		57·75	49·66	50·25					
May 22.													
1 A. M.							49°			Var.	1	Clear.	b. w.
2 "							49						
3 "							49	40°		Calm.	0		
4 "	30·242	37°	40°	41°		39°	49						
5 "	·242	39	42	42		40	49						
6 "	·244	40	44	44		42	49			N. N. E.	1		b.
7 "	·244	48	48	48		46	50			Calm.	0		
8 "	·248	52	61	65		54	50						
9 "	·248	58	70	70		61	50	53°		N. N. E.	1		
10 "	·248	61	74	75		67	50						
11 "	·248	65	74	76		67	50				2		
12 "	·248	66	78	82		72	50			North.			
1 P. M.	·240	70	80	92		73	51						
2 "	·240	78	82	89		76	51				3		
3 "	·240	82	86	92		78	51	53°					
4 "	·240	85	88	92		78	51						
5 "	·240	90	78	86		74	51				2		
6 "	·240	86	66	69		66	51						
7 "	·240	82	64	66		64	51						b. w.
8 "	·240	68	60	60		59	51						
9 "							51			Calm.	0		
10 "							50						
11 "							50						
12 "							50						
Mean.	30·243	65·12	67·35	69·94		62·12	50·12	48·66					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
May 23.													
1 A. M.							50°			S. W.	1	Clear.	b. w.
2 "							50						
3 "							50	42°		N. N. E.			
4 "	30·104	40°	41°	42°		40°	50				2		
5 "	·104	41	44	45		41	50						b.
6 "	·100	44	47	50		48	50						
7 "	·100	48	54	57		54	50			Calm.	0		
8 "	·100	50	58	65		55	51						
9 "	·100	60	76	76		62	51	50°					
10 "	·100	64	72	82		64	50			N^{d}.	1		
11 "	·100	73	82	86		76	50						
12 "	·100	77	84	89		78	50			N. by E.	2		
1 P. M.	·100	82	82	84		79	50			North.			
2 "	·100	82	84	90		82	50					Cirrus.	
3 "	·100	83	84	90		84	52	76°					
4 "	·040	84	83	91		80	52			N. N. E.		Clear.	
5 "	·040	82	80	87		79	51						
6 "	·040	82	80	87		78	51						
7 "	·040	74	68	72		68	51						b. w.
8 "			68	72		68	51			Calm.	0		
9 "							50	55°					
10 "							51						
11 "							51						
12 "							51						
Mean.	30·885	66·62	69·82	74·41		67·41	50·54	55·75					
May 24.													
1 A. M.							51°			S. E.	1	Clear.	b. w.
2 "							51						
3 "							51	54°					
4 "	30·040	50°	51°	50°		49°	50						
5 "	·040	52	52	52		50	51					Cirrus.	b. c.
6 "	·040	52	56	55		54	51						
7 "	·040	52	56	55		54	51						
8 "	·080	58	62	64		60	52						
9 "	·080	64	66	67		64	51	59°				Clear.	b.
10 "	·120	68	72	74		69	51						
11 "	·120	74	74	76		69	51			N. E.	2	Cir. stra.	b. c.
12 "	·120	71	70	74		68	51				1		
1 P. M.	·120	72	86	91		79	51					Cirrus.	
2 "	·140	78	78	89		76	51				3		
3 "	·140	76	78	84		76	51	69°		E. N. E.		Clear.	b.
4 "	·140	80	90	96		82	51				2		
5 "	·140	80	82	91		78	52						
6 "	·140	76	72	77		68	51				3		
7 "	·140	70					51			S. S. E.			b. w.
8 "	·140	65					51				2		
9 "							51	58°		Calm.	0		
10 "							51						
11 "							51						
12 "							51						
Mean.	30·105	66·93	69·66	73		66·33	51·04	60					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
May 25.													
1 A. M.							51°			Calm.	0	Clear.	b. w.
2 "							51						
3 "							51	48°					
4 "	30·050	48°					50						
5 "	·050	48					50						
6 "	·050	52	54°	60°		56°	50						b.
7 "	·050	54	56	61		55	50					Cirrus.	
8 "	·050	62	64	70		62	50			Nd.	1	Cir. stra.	c.
9 "	·050	62	68	75		64	51	63°					
10 "	·080	64	74	80		70	51						
11 "	·080	71	81	83		74	51						
12 "	·080	76	82	88		78	51						c. m.
1 P. M.	·080	75	74	78		72	51			S. W.	2		
2 "	·080	76	69	73		69	52					Overcast.	o. m.
3 "	·080	74	69	73		69	51	66°			5		
4 "	·080	74	66	81		68	52			S. S. W.	6		
5 "	·080	70					51						
6 "	·080	68					51				7		
7 "	·080	64					51						
8 "	·080	60					51				6		
9 "							51	52°		S. W.			r.
10 "							51				7		
11 "							51				6		
12 "							51						
Mean.	30·069	70·47	68·82	74·73		67	50·87	57·25					
May 26.													
1 A. M.							50°			S. W.	5	Overcast.	r.
2 "							50						o.
3 "							50	44°				Cir. stra.	b. c.
4 "	30·260	44°					50						
5 "	·260	46					50						
6 "	·260	47					50						
7 "	·260	48					50			Calm.	0		
8 "	·310	52	69°	72°	62°	58°	50						
9 "	·320	58	70	75	64	59	52	51°					
10 "	·334	60	75	75	66	59	52			N. E.	3	Clear.	b.
11 "	·334	63	77	82	74	68	52						
12 "	·334	66	76	80	76	70	52						
1 P. M.	·306	68	74	76	72	68	51						
2 "	·306	71	78	88	86	73	51					Cirrus.	b. c.
3 "	·304	70	82	87	84	72	51	58°			4		
4 "	·304	70	80	84	82	71	51						
5 "	·284	70	74	77	75	68	51				3		
6 "	·214	68	66	70	69	64	51			E. N. E.			
7 "	·214	65	60	62	61	60	51			S. E.	2		
8 "	·214	72	58	60	60	58	51				3	Clear.	b. w.
9 "							50	50°		S. S. E.	2		
10 "							50						
11 "							50						
12 "							50						
Mean.	30·283	61·06	72·23	76		71·61	65·23	50·66	50·75				

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
May 27.													
1 A. M.							50°			Calm.	0	Clear.	b. w.
2 "							50						
3 "							50	46°					
4 "	30·068	40°	43°	42°	43°	42°	50						
5 "	·068	40	64	76	72	63	50						
6 "	·068	42	64	76	72	63	50						
7 "	·068	46	64	76	72	63	50						b.
8 "	·068	57	66	76	72	63	52						
9 "	·074	60	74	80	76	64	52	57°					
10 "	·074	62	76	81	78	66	52						
11 "	·074	68	78	83	78	70	52					Cirrus.	b. c.
12 "	·068	70	79	82	80	72	52			N. N. W.	1		
1 P. M.	·068	74	76	82	80	70	51						
2 "	·068	74	78	84	78	72	51				2		
3 "	·050	76	90	100	96	80	51	67°					
4 "	·050	77	90	101	98	81	51				1		
5 "	·050	76	92	103	96	82	51					Clear.	b.
6 "	·014	72	78	82	78	72	51						
7 "	·014	72	72	74	74	70	51			Calm.	0		b. w.
8 "	·014	70	69	70	70	65	51						
9 "							51	61°				Cir. stra.	b. c. w.
10 "							51						
11 "							51						
12 "							51						
Mean.	30·056	63·29	73·7	80·47	77·23	66·35	50·92	57·75					
May 28.													
1 A. M.							51°			Calm.	0	Cir. stra.	b. c. w.
2 "							51						
3 "							51	49°					
4 "	30·050	48°	50°	50°	49°	49°	51						
5 "	·050	50	50	49	49	48	51			N. W.	2		b. c.
6 "	·050	50	52	56	54	51	51						
7 "	·078	53	58	64	61	56	51						
8 "	·090	59	64	67	64	59	51					Stratus.	
9 "	·104	64	66	70	69	62	51	57°		North.	3		
10 "	·104	66	64	66	62	60	51						
11 "	·104	68	78	80	78	69	51						
12 "	·120	69	79	81	78	72	51					Cir. stra.	
1 P. M.	·120	76	74	80	78	70	52						
2 "	·120	78	80	80	78	74	52			N. N. W.			
3 "	·120	78	86	96	95	80	52	61°				Clear.	b.
4 "	·118	78	90	99	98	82	52				2		
5 "	·118	76	89	97	95	80	51						
6 "	·118	75	82	88	88	74	51						
7 "	·118	72	66	68	68	66	52						b. w.
8 "	·118	68	64	66	66	64	51						
9 "							51			Calm.	0		
10 "							51						
11 "							51						
12 "							51						
Mean.	30·100	66·35	70·12	73·35	72·35	65·64	51·21	55·66					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
May 29.													
1 A. M.							51°			Calm.	0	Clear.	b. m.
2 "							51						
3 "							51	44°					
4 "	30·080	42°	49°	49°	48°	48°	51						
5 "	·080	42	49	49	48	48	51						
6 "	·080	45	52	57	50	49	51						b.
7 "	·090	50	60	62	56	52	51						
8 "	·112	55	70	83	79	60	51						
9 "	·114	60	74	90	84	65	51	54°					
10 "	·114	65	66	78	79	61	53						
11 "	·108	70	82	93	89	72	53					Stratus.	c.
12 "	·108	72	75	84	83	70	52						
1 P. M.	·090	76	80	90	88	74	51			S. W.	4		
2 "	·096	78	69	76	74	69	51						
3 "	·102	74	70	76	76	69	51	62°				Overcast.	o.
4 "	·102	70	64	68	68	74	51						o. d.
5 "	·070	64	60	66	63	60	51						
6 "	·070	62	56	61	58	59	51				3		
7 "	·070	60	54	58	54	56	53			S. S. W.			
8 "	·070	58	54	54	54	55	52				4		
9 "							53	54°					
10 "							53				5	Stratus.	c.
11 "							53						
12 "							52				4		
Mean.	30·091	61·29	63·76	70·23	67·82	61·23	51·62	53·5					
May 30.													
1 A. M.							51°			S. S. W.	3	Stratus.	c.
2 "							51						
3 "							51	45°		Calm.	0		
4 "	30·194	46°	49°	49°	48°	47°	51						
5 "	·194	47	49	49	48	47	52						
6 "	·194	47	48	50	50	48	52						
7 "	·194	48	50	51	51	49	51						
8 "	·240	50	54	55	55	50	51						
9 "	·240	53	58	61	58	55	51	51°					
10 "	·248	56	60	64	62	56	51						
11 "	·250	60	76	85	78	66	51			N[d].	2	Cir. stra.	b. c.
12 "	·250	64	71	75	75	64	51						
1 P. M.	·234	69	76	90	87	71	51				3		
2 "	·224	70	78	89	88	71	51			N. N. E.			
3 "	·208	69	79	90	88	71	51						
4 "	·178	68	70	77	75	66	51				4	Clear.	
5 "	·142	66	67	72	70	64	51						
6 "	·114	65	64	67	66	62	51						b. w.
7 "	·082	60	56	56	56	56	51						
8 "	·074	55	53	55	54	54	51				3		
9 "							51	48°					
10 "							51						
11 "							51						
12 "							51						
Mean.	30·186	58·41	62·23	66·76	65·23	58·65	51·08	48					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
May 31.													
1 A. M.							51°			N. N. E.	2	Clear.	b. w.
2 "							51			Calm.	0		
3 "							51	42°					
4 "	29·948	38°	38°	38°	37°	37°	51						
5 "	·948	38	38	38	37	37	51						b.
6 "	·948	40	55	58	50	46	51			S. W.	2		
7 "	·950	46	60	71	63	52	51						
8 "	·960	52	68	80	76	59	51				1		
9 "	·960	58	72	84	81	61	51	55°					
10 "	·940	64	72	80	80	63	51			North.		Cir. cum.	b. c.
11 "	·940	66	81	94	91 *	72	51						
12 "	·920	64	78	85	86	70	51						
1 P. M.	·924	76	86	97	92	78	52			W. N. W.		Clear.	b.
2 "	·924	74	86	97	92	78	52				2	Cirrus.	b. c.
3 "	·908	80	88	100	98	82	52	55°					
4 "	·924	84	88	105	100	84	52			S. W.	3	Clear.	b.
5 "	·924	72	80	86	84	72	52				5		
6 "	·924	68	72	79	78	68	52						
7 "	·942	62	60	66	62	59	52						b. w.
8* "	·942	60	56	55	54	54	51			S. S. W.	4		
9 "							51	48°					
10 "							51			S. S. E.	2		
11 "							51				3	Cir. stra.	b. c. w.
12 "							51			South.	1		
Mean.	29·937	61·29	69·29	77·23	74·17	63·06	51·29	50					
June 1.													
1 A. M.							51°			S. S. W.	1	Clear.	b. w.
2 "							51			N. E.	2		
3 "							51	41°					
4 "	29·986	37°	40°	40°	40°	40°	51						
5 "	·986	38	41	41	41	41	51			Calm.	0		
6 "	30·004	40	42	52	50	46	51						
7 "	·020	45	49	52	50	46	51					Cir. cum.	b. c.
8 "	·020	51	59	66	62	54	52					Stratus.	
9 "	·032	59	59	66	64	56	52	56°					
10 "	·032	59	62	74	70	58	52						
11 "	·040	59	62	74	73	60	52			Calm.	0		
12 "	·040	60	76	84	82	68	52						
1 P. M.	·040	60	76	90	88	69	53			North.	2	Clear.	b.
2 "	·000	63	78	90	90	70	55						
3 "	·002	65	80	91	90	72	54	62°			4		
4 "	29·992	67	74	88	87	70	54			N. W.			
5 "	·986	66	74	82	80	69	52			West.	2		
6 "	·986	66	72	82	81	66	52					Cir. stra.	b. c.
7 "	·982	58	55	56	56	65	52						
8 "	·982	57	54	55	55	64	52						
9 "							52	52°					
10 "							52			S. W.			
11 "							51						
12 "							51						
Mean.	30·008	55·88	61·94	69·59	68·17	59·65	51·96	52·75					

* Saw a very brilliant meteor, leaving a fiery train in the heavens visible for 32 minutes.

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
June 2.													
1 A. M.							51°			S. W.	1	Cir. stra.	b. c.
2 "							51				2		
3 "							51	40°			1		
4 "	29·950	44°	38°	39°	39°	37°	50						
5 "	·950	46	38	39	39	37	51			Calm.	0		
6 "	·934	42	50	58	55	50	51						
7 "	·934	46	55	56	54	49	51						
8 "	·920	53	68	84	76	58	51					Stratus.	
9 "	·924	56	70	85	80	62	51	52°		South.	1		
10 "	·862	58	70	81	80	64	52				2		
11 "	·844	62	70	79	80	64	52						
12 "	·810	64	70	76	74	64	52				1		
1 P. M.	·788	65	68	74	72	64	52			Calm.	0		
2 "	·764	65	65	70	70	63	52			N^{d}.	1		
3 "	·740	64	65	70	68	64	52	60°					
4 "	·720	65	66	74	70	64	52			N. W.	2		
5 "	·710	66	65	69	68	63	52				3		
6 "	·674	64	60	63	62	60	52						
7 "	·642	60	58	58	58	57	52			West.			
8 "	·640	58	55	55	55	55	52				2		
9 "							51	53°				Overcast.	o.
10 "							51			Calm.	0		
11 "							51						o. r.
12 "							51					Cir. stra.	b. c.
Mean.	29·812	57·53	60·64	66·47	64·71	57·35	51·42	51·25					
June 3.													
1 A. M.							51°			Calm.	0	Cir. stra.	b. c.
2 "							51						
3 "							51	48°				Clear.	b.
4 "	29·550	48°	48°	48°	48°	47°	51						
5 "	·550	48	48	48	48	47	51			S. S. W.	3	Cir. cum.	b. c.
6 "	·492	48	48	48	48	47	51						
7 "	·492	50	64	64	60	58	50				4		
8 "	·472	56	60	72	68	58	50					Overcast.	o.
9 "	·472	58	60	63	62	59	50	58°			5	Nimbus.	c. p. q.
10 "	·472	58	61	64	62	60	50						
11 "	·484	64	61				50						
12 "	·548	64	62				51				6		
1 P. M.	·604	64	58				51			S. W.			c. p. q.
2 "	·604	64	56				51						
3 "	·768	60	54				51	52°					
4 "	·768	59	52				51				4		c. q.
5 "	·768	62	52				51						
6 "	·768	62	52				51				5		
7 "	·720	55	49				51				4		
8 "	·734	54	49				51						c.
9 "							51	50°					
10 "							51			Calm.	0		c. r.
11 "							51						
12 "							51						
Mean.	29·603	57·29	54·94	58·14	56·57	53·71	50·79	52					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
June 4.													
1 A. M.							51°			Calm.	0	Nimbus.	c. p.
2 "							51			South.	3		
3 "							50	47°				Overcast.	p.
4 "	29·824	44°	46°				50						
5 "	·830	45	47				50				4		
6 "	·840	45	48				50				3		d.
7 "	·864	47	47				50						
8 "	·864	47	48				50			Var.	1		
9 "	·884	50	48				51	46°					q. p.
10 "	·888	52	49				51						
11 "	·888	56	52				50				2		
12 "	·908	62	54				50						
1 P. M.	·924	60	51				51			S. W.	3		p.
2 "	·924	60	52				51						
3 "	·924	64	53				51	50°					
4 "	·924	64	54				52			Calm.	0		o.
5 "	·930	66	53				52					Cir. stra.	c.
6 "	·912	65	56				52						
7 "	·912	67	52				51						b. c.
8 "	·912	66	52				51						
9 "							51	48°				Cirrus.	
10 "							51						
11 "							51					Clear.	b.
12 "							51		Rain·4 in.				
Mean.	29·891	56·47	50·71				50·79	47·75					
June 5.													
1 A. M.							51°			Calm.	0	Clear.	b.
2 "							51						
3 "							51	40°					
4 "	29·864	38°	42°				51			N. W.	2		
5 "	·752	39	42				51					Cir. stra.	b. c.
6 "	·608	42	42				51						
7 "	·590	45	44				51			N. N. W.			c.
8 "	·590	50	48				51				3		
9 "	·546	54	50				51	50°		N. N. E.		Stratus.	c. p. d.
10 "	·546	54	50	51°	51°	50°	51						
11 "	·512	54	51	51	51	50	51					Nimbus.	
12 "	·512	56	51	51	51	50	52			N. N. W.	1		r. t. l.
1 P. M.	·512	52	52	51	51	50	52						
2 "	·482	51	52	52	51	50	52						
3 "	·482	52	52	52	51	50	52	52°				Overcast.	o. r. t. l.
4 "	·518	52	53	52	51	50	52			Var.		Nimbus.	
5 "	·524	53	52	52	51	50	52						
6 "	·542	53	52	50	51	50	52			S^{d}.	2		r. t.
7 "	·554	54	50	50	50	50	52						
8 "	·554	54	50	50	50	50	52			S. E.			
9 "							51	46°		E. S. E.	3		r.
10 "							51						
11 "							52				2		
12 "							52						
Mean.	29·569	50·06	49	51·09	50·82	50	51·47	47					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
June 6.													
1 A. M.							51°			Calm.	0	Overcast.	r.
2 "							51						
3 "							51	45°					
4 "	29·682	44°	46°	46°	46°	46°	51						
5 "	·682	46	47	47	47	48	51			South.	3		
6 "	·682	46	48	48	48	47	51						c. p.
7 "	·742	50	50	50	50	49	51				4		
8 "	·762	54	51	51	51	51	51						
9 "	·792	58	51	50	50	51	51	50°		S. W.			r.
10 "	·810	58	50	50	50	50	51						
11 "	·838	58	50	50	50	50	51						
12 "	·858	58	50	52	51	49	51				3		
1 P. M.	·892	66	55	56	54	54	51						o.
2 "	·902	67	56	58	56	56	51			North.	2	Stratus.	c.
3 "	·904	67	57	59	57	55	51	50°					
4 "	·904	70	56	55	54	53	51						
5 "	·904	72	56	60	58	54	51				1		
6 "	·930	64	56	61	59	54	51						
7 "	·936	56	54	54	54	54	51						b. c.
8 "	·936	55	53	53	53	53	51			S. E.	2	Cirrus.	
9 "							51						
10 "							51					Clear.	b.
11 "							51						
12 "							51						
Mean.	29·833	58·18	52·18	52·94	52·25	51·41	51	48·33					
June 7.													
1 A. M.							51°			S. E.	1	Clear.	b.
2 "							51						
3 "							51	57°		Calm.		Cir. cum.	b. c.
4 "	29·930	46°	46°	46°	46°	46°	51						
5 "	·930	46	48	48	48	48	51			N. W.	1		
6 "	·930	49	52	53	52	51	51						
7 "	·930	52	60	62	61	60	51				2		
8 "	·930	57	70	75	72	60	51			N. N. E.			
9 "	·932	60	68	76	72	63	51	54°					
10 "	·932	63	73	80	76	70	51					Cirrus.	
11 "	·892	63	86	99	95	77	51				3		
12 "	·868	65	86	104	96	78	51					Cir. stra.	
1 P. M.	·844	67	89	107	100	80	52						
2 "	·844	71	90	107	99	80	52						
3 "	·812	71	81	95	89	76	52	64°				Cir. cum.	
4 "	·762	70	68	74	72	66	52						
5 "	·744	67	64	69	68	64	52				2		
6 "	·740	64	63	63	63	61	52						
7 "	·704	60	60	60	60	59	52						
8 "	·704	60	60	60	60	59	52					Stratus.	c.
9 "							52			E. N. E.			
10 "							52				1		
11 "							52						
12 "							52						
Mean.	29·848	60·64	68·47	75·18	71·71	64·58	51·5	58·33					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
June 8.													
1 A. M.							51°			East.	2	Stratus.	d.
2 "							51			S. E.			
3 "							51	52°					
4 "	29·682	51°	54°	53°	53°	54°	51					Overcast.	
5 "	·682	51	54	54	54	53	51						r.
6 "	·682	50	55	55	54	54	51			Calm.	0		
7 "	·682	52	56	56	56	55	51						
8 "	·682	53	56	56	56	55	51						
9 "	·718	56	58	61	60	56	52	55°					
10 "	·718	58	63	69	67	59	52			Nd.	1	Cir. stra.	c.
11 "	·718	63	72	87	83	67	52						
12 "	·728	66	73	85	84	69	52						
1 P. M.	·728	69	73	82	80	69	52						
2 "	·748	74	74	81	80	70	52			Calm.	0		
3 "	·748	75	79	91	89	73	52	63°					
4 "	·748	75	80	88	85	73	52					Cirrus.	b. c.
5 "	·748	74	82	89	84	73	53			Nd.	1		
6 "	·748	74	80	86	82	71	53						
7 "	·750	73	64	66	66	64	53						
8 "	·750	71	60	62	62	60	53						
9 "							52	54°				Clear.	b.
10 "							52			Calm.	0		
11 "							52						
12 "							52						
Mean.	29·721	63·82	66·65	71·82	70·29	63·23	51·81	56					
June 9.													
1 A. M.							52°			S. E.	1	Clear.	b.
2 "							52						
3 "							51	49°					
4 "	29·780	46°	46°	48°	47°	46°	51			Calm.	0		
5 "	·788	46	46	48	47	46	51						
6 "	·792	47	58	56	54	48	51						
7 "	·812	53	54	56	55	52	52						
8 "	·828	58	76	84	80	66	52						
9 "	·842	62	78	84	80	66	52	55°					
10 "	·804	68	82	90	88	74	52						
11 "	·812	70	84	92	89	76	52						
12 "	·822	74	84	94	90	77	52						
1 P. M.	·824	76	82	96	91	77	53			Sd.	1		b. m.
2 "	·852	78	84	93	90	80	53						
3 "	·852	78	90	99	96	84	53	70°			2		
4 "	·836	82	88	100	98	83	53					Overcast.	o. m.
5 "	·860	83	80	92	88	76	53						
6 "	·872	80	78	84	80	72	53						
7 "	·872	71	58	58	58	57	52						
8 "	·872	70	56	56	56	56	52				1		
9 "							53	55°					
10 "							53				2		
11 "							53						
12 "							53						
Mean.	29·831	67·12	72	78·23	76·29	66·82	52·25	58·25					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
June 10.													
1 A. M.							53°			Sd.	3	Overcast.	o. m.
2 "							53						
3 "	29·912	51°	51°	50°	50°	50°	53	51°					
4 "	·912	51	51	50	50	50	53						
5 "	·912	51	51	50	50	50	53				2		
6 "	·924	52	51	50	50	50	53						
7 "	·928	52	52	52	52	51	52						
8 "	·940	54	53	53	53	52	52				3		
9 "	·940	55	54	54	54	53	52	50°		S. W.	2	Stratus.	c. m.
10 "	·962	59	57	58	57	56	52						
11 "	·962	59	59	60	60	57	53						
12 "	·962	60	64	69	68	62	53				1		
1 P. M.	·972	64	68	78	72	64	52						
2 "	·972	66	79	86	86	72	52			N. E.	2	Cir. cum.	b. c.
3 "	·972	68	76	84	84	70	52	56°					
4 "	·972	73	78	87	84	72	52						
5 "	·972	73	78	87	84	72	52				3		
6 "	·972	71	76	82	80	71	52				2		b.
7 "	·972	64	63	66	66	62	52			N. W.		Clear.	b. w.
8 "	·972	61	61	62	62	60	52						
9 "							52	52°					
10 "							52			Calm.	0		
11 "							52						
12 "							52						
Mean.	29·947	60·02	62·33	65·44	64·55	59·66	52·33	52·25					
June 11.													
1 A. M.							52°			Calm.	0	Clear.	b. w.
2 "							52						
3 "	29·950	42°	42°	42°	42°	42°	52	46°					
4 "	·952	43	42	42	42	42	52						
5 "	·952	43	42	42	42	42	52			Var.	1		
6 "	·952	45	54	52	52	49	52						b.
7 "	·952	50	54	51	50	48	52						
8 "	·952	54	72	71	68	62	52						
9 "	·942	57	72	78	77	64	52	52°		N. E.	3	Cumulus	b. c.
10 "	·942	64	72	76	80	66	52						
11 "	·932	66	80	90	86	73	52						
12 "	·932	70	84	92	89	78	52						
1 P. M.	·932	72	85	93	90	80	53			Nd.	2		
2 "	·926	76	84	95	93	79	52					Clear.	b.
3 "	·920	80	89	100	99	83	53	63°					
4 "	·920	82	84	94	90	78	53						
5 "	·892	82	84	92	89	80	54						
6 "	·892	81	82	90	86	78	54						
7 "	·892	78	74	74	74	72	54						b. w.
8 "	·892	74	70	70	70	68	53			Calm.	0		
9 "							53	56°					
10 "							53						
11 "							53			Nd.	1		
12 "							53						
Mean.	29·929	64·39	70·33	74·66	73·27	65·77	52·58	54·25					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
June 12.													
1 A. M.							53°			Calm.	0	Clear.	b. w.
2 "							53						
3 "	29·836	52°	54°	54°	54°	53°	53	63°					
4 "	·838	52	54	54	54	53	53						
5 "	·838	52	54	54	54	53	52						
6 "	·844	55	57	61	61	56	52						b.
7 "	·862	56	60	60	60	58	52						
8 "	·862	60	78	80	79	68	52						
9 "	·862	64	69	74	72	66	52	65°					
10 "	·862	69	78	90	87	74	52					Cirrus.	b. c.
11 "	·862	71	78	84	82	73	52						
12 "	·864	76	87	94	94	82	52			N^{d}.	1	Overcast.	o.
1 P. M.	·864	76	81	86	86	78	53						
2 "	·868	78	95	104	103	89	53						o. p. d.
3 "	·868	78	88	97	95	85	54	76°					
4 "	·882	79	76	80	79	76	54				2		o.
5 "	·882	77	76	76	76	76	55						
6 "	·882	72	76	76	76	76	54						
7 "	·882	67	70	70	70	70	54						
8 "	·882	65	70	70	70	70	53						r.
9 "							54	63°		Calm.	0		
10 "							54						
11 "							53						
12 "							53						
Mean.	29·863	66·61	72·27	75·77	75·17	69·77	53	66·75					
June 13.													
1 A. M.							54°			Calm.	0	Overcast.	r.
2 "							54						
3 "	29·880	56°	61°	61°	60°	59°	54	57°					
4 "	·880	56	61	61	60	59	54						
5 "	·880	56	61	61	60	59	54						
6 "	·880	56	61	61	61	59	54						
7 "	·880	56	61	61	61	60	54						
8 "	·880	57	61	61	61	60	54						
9 "	·880	59	61	62	61	60	54	58°					
10 "	·884	62	62	63	62	61	54						
11 "	·886	64	64	65	64	62	54						
12 "	·892	67	64	65	64	63	54						
1 P. M.	·892	74	64	72	71	64	54					Clear.	b.
2 "	·892	64	64	66	66	64	56					Overcast.	r.
3 "	·882	66	82	83	80	72	55						
4 "	·882	66	82	83	80	73	55					Clear.	b.
5 "	·880	64	63	62	62	62	54			S. W.	1	Cir. stra.	b. c.
6 "	·880	64	63	63	63	62	54						
7 "	·870	63	60	61	61	60	54						
8 "	·870	62	60	60	60	59	54					Stratus.	
9 "							54	58°		S. S. W.	3		c. p.
10 "							54						
11 "							54						
12 "							54						c. m.
Mean.	29·881	60·66	64·16	65·05	64·27	62·11	54·16	57·66					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
June 14.													
1 A. M.							54°			S. S. E.	1	Stratus.	c. m.
2 "							54						
3 "	29·812	54°	54°	53°	53°	53°	54	55°					
4 "	·812	54	54	53	53	53	54						
5 "	·812	54	54	54	53	53	54			Calm.	0	Clear.	b. m.
6 "	·812	54	55	54	55	54	54						
7 "	·812	56	59	59	59	57	54						
8 "	·812	58	60	66	65	58	53						
9 "	·802	60	76	80	80	66	52	62°		N^{d}.	2		b.
10 "	·790	65	73	79	79	68	52						
11 "	·790	68	72	77	78	66	53						
12 "	·762	69	78	79	79	71	54						
1 P. M.	·762	70	78	82	82	73	55			N. E.		Cirrus.	b. c.
2 "	·762	70	78	82	82	73	55						
3 "	·722	72	74	79	78	70	55	60°		E^{d}.	3	Overcast.	o.
4 "	·704	73	75	83	81	72	55				2		
5 "	·704	71	72	75	73	69	55						
6 "	·682	71	69	73	72	69	54						
7 "	·680	67	63	66	65	63	54				4		
8 "	·678	65	63	63	63	63	53						r.
9 "							53	60°		S. E.			
10 "							53				3		
11 "							53			S. S. E.	2		
12 "							53				1		
Mean.	29·745	63·94	67·05	69·83	68·33	63·94	53·75	59·25					
June 15.													
1 A. M.							54°			S. S. E.	1	Overcast.	r.
2 "							54						
3 "	29·540	57°	58°	58°	58°	58°	54	55°		Calm.	0		
4 "	·540	57	58	58	58	58	54						
5 "	·540	57	56	58	58	58	54						
6 "	·522	58	56	58	58	58	54						o. m.
7 "	·522	58	56	58	59	59	53						
8 "	·522	61	59	59	59	59	52						
9 "	·522	61	59	59	59	59	52	58°					r.
10 "	·522	61	59	59	60	60	52			S. E.	1		
11 "	·522	61	60	60	61	61	52						
12 "	·522	62	61	61	62	62	52						
1 P. M.	·522	63	62	62	62	62	53						d. m.
2 "	·522	63	62	62	62	62	53				2		
3 "	·522	63	62	62	62	62	54	56°					
4 "	·522	62	62	62	60	60	53						
5 "	·540	61	60	60	60	60	53						
6 "	·540	60	60	60	60	60	53						
7 "	·548	60	60	60	60	60	53				3		
8 "	·548	60	60	60	60	60	53				4		r.
9 "							53						
10 "							53				3		
11 "							53						
12 "							53						
Mean.	29·529	60·27	59·44	59·77	59·88	59·88	53·08	56·33					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
June 16.													
1 A. M.							53°			S. S. E.	3	Overcast.	r.
2 "							52						
3 "	29·712	52°	54°	54°	54°	54°	54	52°					
4 "	·712	52	54	54	54	54	52						
5 "	·712	52	54	54	54	54	52			S^{d}.			o.
6 "	·726	53	54	54	54	54	53				4	Stratus.	c.
7 "	·740	55	55	55	55	55	53						
8 "	·764	57	72	70	70	64	53						q. p.
9 "	·792	59	74	72	72	65	53	52°					
10 "	·792	62	71	73	68	66	53						
11 "	·812	62	56	70	58	65	53					Cir. stra.	b. c.
12 "	·828	58	66	58	61	56	53				3		
1 P. M.	·848	61	61	61	61	60	54				4		
2 "	·850	61	60	61	68	60	54			S. S. W.		Cirrus.	
3 "	·862	62	68	72	74	64	54	57°				Clear.	b.
4 "	·862	63	76	78	72	68	54						
5 "	·862	62	66	66	65	63	55						
6 "	·892	64	70	70	68	64	55				2		
7 "	·892	61	65	65	65	63	55					Cir. stra.	b. c.
8 "	·892	59	58	58	58	58	55						b. c. q.
9 "							54	53°					
10 "							53				1		c. m.
11 "							53						
12 "							53			Calm.	0	Stratus.	c.
Mean.	29·808	58·61	63	63·61	62·83	60·39	53·48	53·66					
June 17.													
1 A. M.							52°			Calm.	0	Stratus.	r.
2 "							52					Overcast.	
3 "	29·892	50°	53°	54°	54°	54°	52	50°					
4 "	·892	51	54	54	54	54	52						
5 "	·892	51	54	54	52	52	52			Var.	1		p.
6 "	·892	52	54	52	54	54	52						
7 "	·902	54	54	54	54	54	52						
8 "	·902	56	55	54	54	54	52						
9 "	·908	59	56	54	72	58	52	54°		S. W.	2		
10 "	·908	60	73	73	75	67	53				1		
11 "	·908	61	75	77	75	66	53						
12 "	·892	62	76	77	75	67	53						r.
1 P. M.	·884	62	78	78	69	63							
2 "	·852	62	78	72	63	63				S^{d}.			
3 "	·850	62	78	63	63	63		63°					
4 "	·850	62	63	63	63	63				S. S. E.	2		d.
5 "	·820	60	63	63	60	60							
6 "	·804	61	60	60	60	60							
7 "	·762	60	60	60	57	57					3	Stratus.	c.
8 "	·762	60	56	57	56	56				S. E.			
9 "								53°			2		
10 "													
11 "													
12 "													
Mean.	29·865	58·05	63·33	62·15	61·66	59·16	52·25	55					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
June 18.													
1 A. M.							53°			Var.	1	Cir. stra.	b. c.
2 "							53						
3 "	29·602	53°	53°	53°	53°	53°	53	51°					
4 "	·602	53	53	53	53	53	53			S. E.	2	Stratus.	c.
5 "	·602	53	53	53	53	53	53						r.
6 "	·602	54	54	54	54	54	52				1		
7 "	·602	55	54	54	54	54	52			S. S. E.		Cir. stra.	c.
8 "	·614	59	54	54	54	54	52						
9 "	·652	62	67	62	62	61	52	55°		South.	2		b. c.
10 "	·664	63	60	69	66	60	52			S. S. W.			
11 "	·668	65	72	79	75	67	52						p.
12 "	·680	65	70	72	71	69	52			S. W.	3		
1 P. M.	·698	64	78	79	76	70	53					Overcast.	
2 "	·724	64	62	64	64	63	53				5		q. p.
3 "	·724	64	63	63	63	63	53	57°					
4 "	·730	60	63	65	64	63	53			S. S. W.			
5 "	·736	60	60	60	60	60	52				4		
6 "	·738	59	60	60	60	60	52						
7 "	·764	58	59	59	59	59	52			S. S. E.			
8 "	·772	58	57	58	58	58	52			S. by E.			r.
9 "							52	53°			3		
10 "							52			S. S. E.			
11 "							52			S. E.	2		
12 "							52						
Mean.	29·676	59·39	60·66	61·72	61·05	59·66	52·37	54					
June 19.													
1 A. M.							52°			S. E.	2	Overcast.	r.
2 "							52						
3 "	29·834	52°	54°	54°	54°	54°	52	56°		E. S. E.	1		
4 "	·834	52	54	54	54	54	52						
5 "	·834	52	54	54	54	54	52				2		
6 "	·842	53	54	54	54	54	52			N. E.			
7 "	·862	54	54	54	54	54	52						
8 "	·868	56	60	62	61	58	52				1		
9 "	·904	60	64	67	65	62	52						c.
10 "	·904	62	66	68	66	63	53					Cum. st.	
11 "	·916	64	70	74	71	66	53			S. W.	4		c. q.
12 "	·928	65	64	69	66	64	53						
1 P. M.	·932	64	72	70	69	67	53						
2 "	·932	64	70	72	70	68	53				5	Stratus.	
3 "	·938	62	65	65	65	65	53	57°					q. p.
4 "	·960	62	65	66	65	64	53						
5 "	·950	63	64	64	64	64	53			N. W.	3		
6 "	·950	63	66	66	66	63	53			N. N. W.			
7 "	·954	60	60	62	62	61	53			N. N. E.			c.
8 "	·954	56	59	59	59	59	53					Clear	
9 "							53	52°		North.	1	overhead	f.
10 "							53						
11 "							53						
12 "							53			Calm.	0	Overcast.	F.
Mean.	29·905	59·11	61·94	63	62·16	60·77	52·62	55					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
June 20.													
1 A. M.							52°			Calm.	0	Overcast.	F.
2 "							52						
3 "	29·862	53°	53°	54°	54°	53°	52	52°					
4 "	·862	53	53	54	54	53	52						
5 "	·862	54	53	54	54	53	52			N. W.	1		
6 "	·842	57	53	54	54	53	52						
7 "	·842	59	56	55	55	55	52						
8 "	·870	60	58	57	57	56	52			Calm.	0		
9 "	·870	62	59	62	60	57	53	54°		S^{d}.	1	Cir. stra.	c. f.
10 "	·880	64	65	68	67	63	53						
11 "	·894	62	65	71	69	64	53						c.
12 "	·898	59	62	62	62	62	53						
1 P. M.	·890	59	60	60	60	60	53			E^{d}.	4	Cumulus	b. c.
2 "	·890	59	59	59	59	59	53						
3 "	·920	58	60	60	60	60	53	57°					
4 "	·932	57	58	58	58	58	53			E. S. E.	3		
5 "	·932	62	57	57	57	57	53					Cumulus	
6 "	·932	61	59	59	59	59	53						
7 "	·946	60	59	58	58	58	52						
8 "	·946	53	58	58	56	56	52						
9 "							53	58°		S. E.		Stratus.	c.
10 "							53				2		
11 "							53				1		
12 "							53						
Mean.	29 893	58·44	58·47	58·88	58·5	57·55	52·58	55·25					
June 21.													
1 A. M.							52°			S. E.	1	Cir. stra.	c.
2 "							52						
3 "	30·022	54°	54°	54°	54°	54°	52	53°					
4 "	·022	54	54	54	54	54	52			S. S. E.			
5 "	·028	54	55	55	55	55	52						
6 "	·048	54	57	57	57	55	52			S. W.			
7 "	·058	55	62	63	63	58	52						
8 "	·072	58	73	76	76	67	52				2		
9 "	·082	62	62	62	62	62	52	57°		W^{d}.		Cum. st.	b. c.
10 "	·090	62	72	79	78	68	53						
11 "	·102	63	70	76	74	68	53						
12 "	·102	67	81	86	85	74	53						
1 P. M.	·108	70	77	85	83	72	53				3		
2 "	·108	70	82	90	87	76	53						
3 "	·108	70	84	92	88	78	53	52°				Cumulus	
4 "	·108	72	72	79	76	70	54				2		
5 "	·102	72	72	79	76	69	54						
6 "	·102	69	64	70	68	64	54						
7 "	·102	68	64	64	64	63	54					Overcast.	o.
8 "	·102	68	62	62	62	61	52						
9 "							53					Cum. st.	c.
10 "							53			Calm.	0		
11 "							53						
12 "							53						
Mean.	30·081	63·44	67·61	71·28	70·11	64·88	52·75	54					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
June 22.													
1 A. M.							52°			Calm.	0	Cum. st.	c.
2 "							52						
3 "	30·062	52°	50°	50°	50°	50°	53	53°					
4 "	·062	52	50	50	50	50	53						b. c.
5 "	·062	52	50	50	50	50	53					Cumulus	
6 "	·050	54	56	56	56	54	53						
7 "	·056	60	62	61	60	56	53						
8 "	·056	62	74	82	82	66	54					Clear.	b.
9 "	·056	66	78	90	86	70	53	60°					
10 "	·044	68	76	84	81	70	53						
11 "	·016	70	79	90	86	73	53						
12 "	·016	74	88	97	92	80	53						
1 P. M.	·016	74	82	93	87	78	53						
2 "	·014	77	96	102	98	87	54						
3 "	·012	81	98	108	103	90	54	77°					
4 "	·012	84	96	106	100	90	54						
5 "	·004	88	93	104	98	89	54			S. W.	3		
6 "	·004	87	92	102	94	86	54						
7 "	026	76	74	79	76	70	53						
8 "	·052	71	65	66	65	64	53			S. S. W.	4		b. w.
9 "							53	60°					
10 "							53			Sd.	3		
11 "							53						
12 "							53				2		
Mean.	30·034	69·33	75·5	81·66	78·55	70·72	53·18	62·5					
June 23.													
1 A. M.							53°			Sd.	1	Clear.	b. w.
2 "							53			Calm.	0		
3 "	30·116	53°	52°	52°	52°	52°	53	57°					
4 "	·116	53	52	52	52	52	54					Cirrus.	b. c.
5 "	·116	53	52	52	52	52	54						
6 "	·116	56	62	64	64	58	53						
7 "	·116	58	60	60	60	58	53					Overcast.	o.
8 "	·116	60	64	67	65	61	53						
9 "	·118	64	69	74	71	64	54	57°		Nd.	3	Cir. stra.	b. c.
10 "	·136	64	69	70	68	64	54						
11 "	·138	65	64	70	69	63	53						
12 "	·138	71	87	96	91	78	53				4		
1 P. M.	·138	76	87	98	93	80	53					Clear.	
2 "	·130	75	86	96	90	80	54						
3 "	·130	79	85	94	87	78	54	68°					
4 "	·130	83	90	102	96	82	54				3		
5 "	·112	79	82	90	86	74	54						
6 "	·092	76	73	80	77	70	54						
7 "	·082	75	68	70	70	68	54						b. w.
8 "	·082	71	61	61	61	60	53						
9 "							53	58°		N. N. E.	2		
10 "							53				1		
11 "							53						
12 "							53				0		
Mean.	30·118	67·28	70·16	74·89	72·44	66·33	53·42	60					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
June 24.													
1 A. M.							53°			Nd.	1	Clear.	b. w.
2 "							53			Calm.	0		
3 "	30·148	50°	50°	50°	50°	50°	53	51°					
4 "	·148	50	50	50	50	50	53						
5 "	·148	51	52	52	52	51	53						
6 "	·154	52	52	59	52	51	53			Sd.	1	Stratus.	b. c.
7 "	·164	54	56	65	58	54	53						
8 "	·172	55	60	87	63	56	53						
9 "	·172	59	74	89	82	66	54	54°		Calm.	0	Cirrus.	
10 "	·172	61	77	85	81	68	54			Nd.	1	Clear.	b.
11 "	·158	63	78	90	84	70	54						
12 "	·142	67	80	103	88	74	54						
1 P. M.	·118	72	88	102	98	80	54						
2 "	·110	73	88	98	98	80	54				2		
3 "	·082	78	86	98	97	79	54						
4 "	·050	78	88	94	96	80	54				3		
5 "	·050	78	84	86	90	78	54						
6 "	·050	78	78	69	84	74	54				2		
7 "	·050	74	66	60	68	65	54						
8 "	29·982	66	66	54	60	60	54						b. w.
9 "	·974	58	56	53	54	55	54	57°		Calm.	0		
10 "	·974	57	53	52	52	54	54						
11 "	·968	56	53	48	52	53	54						
12 "	·972	54	50	48	48	49	54						
Mean.	30·089	62·91	67·5	72·36	70·77	63·5	53·66	54					
June 25.													
1 A. M.	29·978	52°	48°	47°	47°	48°	53°			Calm.	0	Clear.	b. w.
2 "	·978	51	48	45	46	48	53			S. W.	1		
3 "	30·018	50	51	46	46	48	53	55°	60° 50°				
4 "	·024	51	50	48	48	49	53			S. S. E.			
5 "	·026	52	52	51	51	51	53				2		b.
6 "	·042	53	56	56	56	53	53						
7 "	·068	58	65	66	66	59	53						
8 "	·072	63	68	73	72	62	53			Calm.	0		
9 "	·094	63	64	71	69	61	54	55°	64° 52°				
10 "	·094	65	78	88	85	70	55			N. E.	2		
11 "	·094	67	73	83	80	68	55						
12 "	·094	70	86	96	92	76	55				1		
1 P. M.	·094	72	84	94	90	76	54			Calm.	0		
2 "	·062	72	85	94	90	78	54			S. W.	2		
3 "	·072	77	87	97	93	80	54	57°					
4 "	·102	82	84	90	86	76	54			S. S. W.			
5 "	·102	83	73	81	83	74	54				3		
6 "	·128	77	80	88	84	75	54						
7 "	·120	74	62	64	64	63	54			South.			b. w.
8 "	·078	66	58	58	58	57	54				2		
9 "	·082	60	55	53	53	57	54		62° 58°	S. E.			
10 "	·084	56	54	50	51	53	54						
11 "	·092	54	50	48	48	50	54						
12 "	·092	52	50	48	48	49	54						
Mean.	30·070	63·33	65·04	68·12	66·91	61·71	53·79	55·66					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
June 26.													
1 A. M.	30·090	51°	49°	46°	46°	48°	53°			S. S. E.	2	Clear.	b.
2 "	·084	50	49	47	47	48	53						
3 "	·102	49	50	48	48	48	54	51°		South.			
4 "	·112	49	49	47	47	48	54						
5 "	·114	49	50	48	48	50	54						b.
6 "	·114	50	54	51	51	50	53			S. S. W.			
7 "	·146	57	66	62	62	58	53						
8 "	·150	62	72	78	76	64	53			South.			
9 "	·150	69	78	84	82	70	53	56°					
10 "	·150	70	80	88	85	73	53						
11 "	·150	72	84	94	90	78	53				3	Cir. cum.	b. c.
12 "	·070	73	80	90	88	77	53			S. W.	4		
1 P. M.	·052	79	94	104	100	86	53						
2 "	·052	80	97	108	104	88	53						
3 "	·052	72	87	104	100	84	53	68°				Cir. stra.	
4 "	·054	72	77	86	83	74	54						
5 "	·034	72	72	76	76	70	55				3		
6 "	·060	72	70	75	74	68	56						
7 "	·050	68	65	67	67	64	55			South.		Stratus.	c.
8 "	·050	67	58	58	58	58	54						
9 "	·044	65	58	57	57	57	54	59°			4		
10 "	·046	65	56	57	57	58	55						
11 "	·040	63	59	58	58	59	55				5		
12 "	·048	66	58	59	59	59	55						
Mean.	30·084	64·25	67·17	70·5	69·16	64·04	53·78	58·5					
June 27.													
1 A. M.	30·046	64°	57°	57°	57°	57°	54°			South.	5	Stratus.	c.
2 "	·046	61	55	54	54	54	54						
3 "	·070	60	53	52	52	52	54	54°	62° 52°		4		c. p.
4 "	·072	60	52	50	50	51	54					Cir. stra.	b. c.
5 "	·072	57	53	52	52	52	53						
6 "	·072	59	55	57	56	54	53			S. S. E.	3		
7 "	·072	59	69	76	74	62	53						
8 "	·100	60	75	82	79	66	53					Clear.	b.
9 "	·100	60	80	90	87	72	54	58°	64° 48°		2		
10 "	·114	62	72	79	78	67	54			E. S. E.			
11 "	·080	65	75	83	80	70	54						
12 "	·100	67	77	82	80	72	54			N. E.			
1 P. M.	·100	66	75	83	79	71	56					Cumulus	b. c.
2 "	·074	69	86	100	93	80	56						
3 "	·068	69	89	102	98	81	56	62°		E^{d}.	3		
4 "	·056	69	88	102	98	81	56					Clear.	b.
5 "	·030	73	90	100	96	80	55						
6 "	·028	70	82	92	88	74	55			E. N. E.	2		
7 "	·012	64	64	66	66	64	55						
8 "	·032	70	59	58	58	58	55						b.
9 "	·032	66	54	54	54	54	54	55°	62° 54°	N. E.			
10 "	·048	64	54	50	52	53	54						
11 "	·050	64	50	49	49	49	54						
12 "	·050	61	49	47	47	48	54			E. S. E.		Cirrus.	b. c.
Mean.	30·063	65·37	67·21	71·54	69·96	63·41	54·5	57·25					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
June 28.													
1 A. M.	30·050	58°	48°	46°	46°	47°	53°			S. E.	2	Stratus.	c.
2 "	·028	58	48	45	45	46	54						
3 "	·022	58	48	45	45	47	55	50°					
4 "	·030	55	46	44	43	45	55					Cirrus.	b. c.
5 "	·022	54	46	44	44	45	55				3		
6 "	·038	54	52	57	56	53	54						
7 "	·048	58	64	71	70	58	54			E. S. E.			
8 "	·048	56	73	79	77	64	54						
9 "	·058	60	67	79	77	64	54		61° 48°	N. E.	2		
10 "	·056	60	74	84	79	68	54					Clear.	b.
11 "	·050	61	78	86	82	70	55				4		
12 "	·070	67	76	84	78	70	55						
1 P. M.	·074	67	80	88	82	75	55						
2 "	·048	68	86	98	92	81	54						
3 "	·048	68	86	98	92	80	54	64°	62° 48°		3		
4 "	·048	72	86	99	95	80	54				2		
5 "	·014	70	88	98	93	79	54						
6 "	·022	69	77	85	83	71	54						
7 "	·000	67	67	66	66	64	55				1		b.
8 "	·000	67	60	59	59	59	54			S. W.	2		
9 "	·000	66	55	54	54	54	55	58°					
10 "	·000	60	50	49	49	50	55						
11 "	·000	60	50	48	48	50	55						
12 "	·000	60	50	46	47	48	55			Calm.	0		
Mean.	30·032	62·21	64·79	68·83	66·75	61·16	54·41	57·33					
June 29.													
1 A. M.	30·000	58°	48°	46°	46°	48°	55°			Calm.	0	Clear.	b.
2 "	·000	56	45	44	44	46	55						
3 "	·010	56	46	43	43	44	55	51°	60° 52°				
4 "	·010	54	45	42	42	44	55						
5 "	·010	53	48	46	46	46	55						
6 "	·000	53	65	66	65	56	55					Cirrus.	b. c.
7 "	·000	54	72	82	84	62	55						
8 "	·010	60	72	86	83	64	55					Clear.	b.
9 "	29·982	60	79	86	80	64	55	64°	62° 48°	Var.	1		
10 "	·974	62	80	94	88	70	56						
11 "	·972	64	80	92	86	72	56						
12 "	·956	65	82	96	88	76	56			S. E.	2		
1 P. M.	·944	67	80	93	86	77	56						
2 "	·932	72	84	98	92	80	56			Var.	1		
3 "	·934	71	81	91	88	80	56						
4 "	·900	71	91	106	102	85	56						
5 "	·900	72	88	100	95	80	56						
6 "	·872	74	75	84	82	71	56			Calm.	0		
7 "	·880	69	66	66	66	64	56						
8 "	·872	66	60	60	60	60	55						b.
9 "	·888	64	56	54	55	56	55	57°	60° 52°				
10 "	·890	62	54	53	52	53	55						
11 "	·880	60	52	50	50	51	55						
12 "	·894	63	50	48	46	50	55						
Mean.	29·946	62·75	66·62	71·91	69·54	62·46	55·41	57·33					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
June 30.													
1 A. M.	29·892	59°	51°	49°	49°	51°	54°			S. E.	1	Clear.	b.
2 "	·886	58	48	45	46	47	54						
3 "	·900	56	48	44	44	45	54	50°	60° 50°				
4 "	·900	56	47	44	44	43	56						
5 "	·900	54	46	45	45	45	56			Calm.	0		b.
6 "	·906	54	58	62	61	52	55						
7 "	·906	56	73	82	79	62	55						
8 "	·912	56	74	86	81	64	55						
9 "	·908	57	80	86	78	64	55	56°	60° 52°				
10 "	·906	62	83	98	92	73	55						
11 "	·906	64	83	97	91	75	55						
12 "	·902	65	83	95	92	75	56						
1 P. M.	·882	66	87	100	92	81	56			S. S. W.	2		
2 "	·856	70	94	106	100	85	56						
3 "	·856	70	90	104	98	83	56	66°					
4 "	·840	71	95	109	104	86	56					Cum. st.	b. c.
5 "	·840	72	89	100	95	82	56						
6 "	·840	73	78	84	82	74	55				3		
7 "	·868	70	67	69	68	66	57						b. c.
8 "	·878	68	59	59	59	59	57						
9 "	·882	68	56	56	56	56	56	59°	62° 49°				
10 "	·912	66	54	52	52	53	55				2		
11 "	·908	61	52	50	50	52	55						
12 "	·912	62	50	48	48	47	55						
Mean.	29·887	63·08	68·54	73·75	71·08	63·33	55·42	57·75					
July 1.													
1 A. M.	29·910	57°	48°	46°	46°	47°	53°			South.	2	Stratus.	b. c.
2 "	·914	57	48	46	46	47	54						
3 "	·942	56	44	44	44	45	55	50°	60° 52°	S. S. E.			c.
4 "	·942	55	46	42	42	43	55						
5 "	·942	53	46	43	43	44	55				3		
6 "	·946	53	50	48	48	48	54						
7 "	·950	55	58	61	59	57	54						
8 "	·950	55	62	72	67	61	54			E. S. E.	2		
9 "	·960	57	62	68	65	61	54	58°	59° 48°				
10 "	30·010	60	65	72	68	62	54						
11 "	·010	62	66	73	70	65	55			East.		Cumulus	b. c.
12 "	·010	62	80	85	84	72	55						
1 P. M.	·000	66	77	85	79	72	55				3		
2 "	·000	66	88	102	95	82	54						
3 "	29·968	66	88	104	97	82	54	64°			4		
4 "	·968	70	90	104	98	82	54					Clear.	
5 "	·942	69	85	97	92	79	54			N. E.			
6 "	·942	70	80	88	84	74	54						
7 "	·946	68	64	67	66	63	55				3		b.
8 "	·954	66	58	59	58	58	54				2		
9 "	·958	65	56	55	56	56	55	58°	62° 50°				
10 "	·956	62	53	52	52	53	55			S. W.	1		
11 "	·956	60	52	54	50	51	55						
12 "	·960	62	49	47	47	48	55			Calm.	0		
Mean.	29·959	61·33	63·96	67·25	64·83	60·5	54·42	58·5					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
July 2.													
1 A. M.	29·956	58°	48°	46°	46°	47°	55°			E^{d}.	1	Clear.	b.
2 "	·956	56	47	44	44	46	54						
3 "	·950	56	48	43	43	44	54	49°	62° 50°	Calm.	0		
4 "	·950	54	45	42	42	43	54						
5 "	·950	52	44	42	42	42	55						
6 "	·952	52	53	56	54	51	55						
7 "	·950	55	65	72	71	68	55			N^{d}.	1		
8 "	·958	55	74	85	82	64	55						
9 "	·976	56	78	89	85	68	55	54°	64° 54°				
10 "	·982	63	84	95	92	76	55				2		
11 "	30·000	62	79	90	88	73	55						
12 "	·004	63	78	87	83	74	55			Calm.	0		
1 P. M.	·002	66	81	91	87	78	55						
2 "	·006	66	84	93	89	79	56						
3 "	·004	68	90	100	98	85	56	59°	64° 52°				
4 "	·004	68	88	99	98	83	56						
5 "	·000	72	92	103	100	84	56						
6 "	29·998	70	90	100	99	83	56						
7 "	30·000	69	70	75	74	70	56						
8 "	·012	67	61	61	61	61	55						
9 "	·024	66	58	56	56	58	55	59°	64° 56°				
10 "	·036	63	55	53	53	55	55						
11 "	·036	62	53	51	51	53	55						
12 "	·046	61	52	50	50	52	55						
Mean.	29·989	61·66	67·37	71·79	70·33	64·04	55·12	55·25					
July 3.													
1 A. M.	30·048	57°	50°	48°	48°	49°							
2 "	·048	52	48	46	46	46							
3 "	·050	56	45	44	44	43							
4 "	·056	56	44	43	44	44							
5 "	·072	56	45	43	43	43							
6 "	·074	54	62	63	63	56							
7 "	·074	55	75	83	82	64							
8 "			76	88	87	68							
9 "			78	88	82	77	None recorded.	None recorded.	None recorded.	None recorded.	None recorded.	None recorded.	None recorded.
10 "			87	96	93	79							
11 "			84	95	89	80							
12 "	30·100	56	89	99	95	83							
1 P. M.	·100	71	91	99	95	86							
2 "	·100	72	92	101	94	87							
3 "	·086	72	90	98	96	86							
4 "	·064	72	96	106	103	89							
5 "	·050	74	92	104	101	88							
6 "	·050	73	94	100	99	86							
7 "	·050	72	76	80	79	76							
8 "	·050	72	68	68	67	67							
9 "	·050	68	62	61	61	61							
10 "	·048	66	58	57	57	57							
11 "	·048	66	57	56	56	56							
12 "	·042	63	55	53	53	53							
Mean.	30·063	64·15	71·41	75·79	74·04	67·66							

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
July 4.													
1 A. M.	30·036	61°	52°	53°	52°	52°	53°			S. E.	2	Cirrus.	b.
2 "	·036	60	50	48	48	50	54						
3 "	·050	58	48	46	46	48	54	51°	64° 52°				
4 "	·050	58	46	44	44	46	54			Calm.	0		
5 "	·040	55	48	49	49	48	54					Clear.	
6 "	·040	55	62	67	62	56	54						
7 "	·040	56	68	76	75	63	54						
8 "	·040	58	73	83	80	67	54						
9 "	·040	60	88	98	92	77	55	62°	68° 48°				
10 "							55						
11 "							56						
12 "	30·028	68	88	99	89	85	56						
1 P. M.	·022	71	90	100	93	87	56						
2 "	·022	73	98	105	99	92	56						
3 "	·000	75	99	109	104	93	56	78°	63° 56°				
4 "	·000	76	102	112	99	96	56						
5 "	·000	66	98	109	106	91	57						
6 "	29·980	78	94	105	103	90	57						
7 "	·980	78	83	84	84	80	56						
8 "	30·042	74	68	67	68	68	56						
9 "	·054	68	62	62	62	63	56	61°	67° 56°	S. S. W.	1		
10 "	·054	66	60	60	60	61	57						
11 "	·056	65	60	58	59	61	58						
12 "	·054	63	60	59	60	60	58			South.			
Mean.	30·029	65·73	72·59	76·95	74·27	69·72	55·5	63					
July 5.													
1 A. M.	30·046	61°	58°	56°	57°	58°	56°			S. S. E.	1	Clear.	b.
2 "	·036	58	54	53	54	54	56						
3 "	·042	56	53	51	51	51	56		64° 56°	S. E.			
4 "	·056	54	50	48	48	49	56						
5 "	·056	54	51	50	50	50	56			Calm.	0		
6 "	·080	54	56	61	59	58	56						
7 "	·086	59	80	88	86	68	56						
8 "	·086	68	83	93	89	70	56						
9 "	·088	71	87	97	92	74	57		67° 56°	N. E.	1		
10 "	·092	73	79	99	94	76	57						
11 "							57			E. N. E.			
12 "							57					Cirrus.	
1 P. M.	30·096	85	94	95	90	82	56				2		
2 "	·096	87	93	104	99	87	57			S. E.			
3 "	·080	87	92	106	100	89	56		68° 54°				b. c.
4 "	·074	89	94	106	101	89	56					Cumulus	
5 "	·076	88	95	96	94	82	56			South.	1		
6 "	·070	88	89	93	90	80	56						b.
7 "	·060	76	65	67	67	65	55					Clear.	
8 "	·034	71	60	61	61	61	55			S. W.			
9 "	·026	64	60	60	60	58	55		67° 50°				
10 "	·032	60	54	54	54	54	55						
11 "	·024	58	53	52	52	52	55						
12 "	·026	56	54	52	53	53	55						
Mean.	30·062	68·95	70·63	74·54	72·77	66·36	55·96						

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
July 6.													
1 A. M.	30·016	57°	55°	54°	52°	54°	55°			S. W.	2	Cir. cum.	c.
2 "	·014	56	55	54	55	55	55						
3 "	·026	56	55	54	54	54	55	56°					
4 "	·028	55	54	54	54	54	55						
5 "	·028	55	54	54	54	54	55					Cumulus	b. c.
6 "	·038	56	56	56	56	55	55						
7 "	·032	59	61	63	61	60	55						
8 "	·032	59	62	64	62	61	55						
9 "	·032	62	66	69	67	65	56	58°	65° 53°	W. S. W.			
10 "	·032	66	72	80	76	68	56						
11 "	·020	69	81	92	87	75	56				3		
12 "	·014	72	79	89	84	75	56				4		
1 P. M.	·010	74	86	100	93	82	56						
2 "	·000	84	89	105	100	85	56			W^{d}.	3		
3 "	29·988	89	92	104	100	86	56	65°	63° 56°			Cir. cum.	
4 "	·982	90	91	102	94	85	56						
5 "	·984	92	88	95	89	81	56						
6 "	·988	86	83	90	71	76	56						
7 "	·988	82	68	71	60	68	56			S. W.	2		
8 "	·986	72	60	61	56	60	56						
9 "	·964	63	56	56	54	56	55	54°					
10 "	·956	58	55	54	51	54	55			S. S. W.	1		
11 "	·968	56	52	50	50	52	55						
12 "	·968	54	52	50	50	51	55			South.			
Mean.	30·004	67·62	67·58	72·54	67·91	65·25	55·5	58·25					
July 7.													
1 A. M.	29·958	56°	54°	53°	54°	54°	55°			S. S. E.	2	Cir. cum.	b. c.
2 "	·950	56	54	53	54	54	55						
3 "		55	54	53	54	54	55	53°		South.			
4 "		55	54	53	53	53	55						
5 "		55	55	54	54	54	54						
6 "		56	56	57	57	56	54			S. W.	1		
7 "		58	58	60	59	57	54						
8 "	29·962	61	60	64	62	59	54					Stratus.	c.
9 "	·974	66	67	69	67	62	56		62° 53°		2		
10 "	·960	70	74	83	80	69	56						
11 "	·968	71	85	100	96	79	56						
12 "	·968	72	88	101	93	81	56						
1 P. M.	·966	76	84	98	83	81	55			N^{d}.		Cir. stra.	b. c.
2 "	·960	80	90	104	98	85	56						
3 "	·958	86	92	106	101	87	57	65°	63° 52°		1		
4 "	·968	92	98	108	104	88	56			W. S. W.			
5 "	·972	90	86	101	100	84	56					Clear.	b.
6 "	·958	89	89	99	98	82	56						
7 "	·956	81	72	72	72	67	56				3		
8 "	·960	70	60	61	60	59	56			S. W.			
9 "	·954	61	56	55	55	56	56	58°	61° 53°		4		
10 "	·954	59	56	54	54	55	56			S^{d}.			
11 "	·952	58	56	55	56	56	56						
12 "	·958	56	56	55	55	56	56						
Mean.	29·961	67·88	68·92	73·66	71·62	66·17	55·5	58·66					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
July 8.													
1 A. M.	29·950	55°	55°	54°	54°	54°	55°			Sd.	2	Clear.	b.
2 "	·936	54	54	52	53	53	55						
3 "	·940	52	51	50	50	50	55	56°	60° 54°				
4 "	·908	52	50	48	48	49	55						
5 "	·928	51	50	48	48	49	55			Calm.	0		
6 "	·920	52	59	61	56	57	55						
7 "	·932	59	73	84	82	64	55						
8 "	·946	62	79	92	89	69	55						
9 "	·966	63	81	94	90	72	56	57°	63° 54°	Nd.	3		
10 "	·992	65	84	96	92	74	56					Cum. st.	b. c.
11 "	·980	67	86	98	96	98	55				4		
12 "	·992	70	82	94	88	87	55					Cumulus	
1 P. M.	·984	73	86	96	92	81	55						
2 "	·970	78	92	106	105	86	55						
3 "	·968	81	92	102	98	86	55		63° 53°				
4 "	·978	82	90	106	102	84	56				3		
5 "	·968	87	94	106	104	87	56					Clear.	b.
6 "	·972	88	90	100	99	83	56				2		
7 "	·964	82	73	76	76	71	56						
8 "	·956	70	62	62	62	62	56						
9 "	·952	62	58	56	56	57	55		63° 56°	Calm.	0		
10 "	·946	59	55	55	56	56	55						
11 "	·942	58	55	54	54	54	55						
12 "	·948	56	56	55	55	56	55						
Mean.	29·956	65·75	70·29	76·87	75·21	68·29	55·29	56·5					
July 9.													
1 A. M.	29·950	56°	52°	50°	50°	52°	56°			Calm.	0	Clear.	b.
2 "	·956	53	51	49	49	50	56			Sd.	2		
3 "	·960	52	49	47	47	48	56	52°	62° 56°				
4 "	·940	49	48	46	48	46	56						
5 "	·936	48	47	46	46	46	56			S. W.			
6 "	·940	51	62	65	60	58	56						
7 "	·970	55	74	83	81	65	56						
8 "	·964	60	81	91	89	71	56				4		
9 "	·992	66	84	97	92	74	56		64° 56°				
10 "	·980	68	85	100	96	78	56						
11 "	·978	71	90	103	101	82	55						
12 "	·982	74	86	98	93	81	55				3		
1 P. M.	·984	78	88	104	96	84	56						
2 "	·984	83	91	110	100	86	56						
3 "	·974	89	95	109	107	89	56	63°	64° 54°			Stratus.	b. c.
4 "	·980	91	96	92	106	90	56						
5 "	·996	87	80	78	90	78	56						c.
6 "	·983	78	74	71	77	72	56						
7 "	·980	73	70	62	70	66	56				2		
8 "	·976	64	62	62	62	62	56			Sd.			
9 "	·972	62	62	61	62	62	56	60°	62° 56°		3		
10 "	·980	62	61	59	61	61	56						
11 "	·980	61	60	59	60	60	55						
12 "	·988	60	58	58	59	59	55						
Mean.	29·972	66·29	71·08	75	75·08	67·5	55·83	58·33					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
July 10.													
1 A. M.	29·998	59°	57°	58°	58°	58°	56°			S^{t}.	2	Stratus.	c.
2 "	·986	59	57	57	57	57	56						
3 "	·988	58	56	56	56	56	57	58°	60° 56°		1		
4 "	·976	54	52	54	52	54	57						
5 "	·968	57	62	62	60	62	55			S. W.	3		c. u.
6 "	·980	60	76	76	78	76	55					Nimbus.	
7 "	·992	62	62	62	58	60	55						
8 "	30·080	66	68	67	64	66	55				4		
9 "	·012	68	70	68	64	68	55	59°		S. S. W.			
10 "	·022	70	89	84	76	82	55				6		
11 "	·022	71	88	84	75	79	56						
12 "	·044	77	82	79	74	77	56						
1 P. M.	·044	78	90	96	81	86	56				7		
2 "	·064	76	66	67	63	64	56						q. r.
3 "	·062	72	66	66	64	68	56	59°	62° 56°		5	Overcast.	
4 "	·040	70	65	68	66	68	56			South.			r.
5 "	·042	74	70	70	66	67	56						
6 "	·038	68	64	63	62	62	56				4		
7 "	·040	64	65	65	62	64	56						p.
8 "	·040	62	58	58	58	58	56						
9 "	·034	57	55	55	56	56	55	56°	59° 54°				
10 "	·034	57	54	56	56	56	55						
11 "	·018	56	54	54	55	56	56			S. S. W.			c. u.
12 "	·012	56	54	54	54	55	56				3		
Mean.	30·022	64·62	65·83	65·79	63·54	64·37	55·75	58					
July 11.													
1 A. M.	30·014	55°	55°	54°	54°	54°	55°			South.	3	Overcast.	r.
2 "	·006	54	53	52	52	52	55						
3 "	·016	54	54	52	52	52	55	55°	60° 56°				
4 "	·000	54	52	52	52	52	55			S. S. E.			
5 "	29·992	54	52	52	52	52	55				4		
6 "	·978	54	52	53	52	52	55						
7 "	·986	54	52	53	52	52	55			S. E.			
8 "	·978	56	54	55	55	54	55						
9 "	30·008	69	58	60	59	57	55	54°	62° 56°				
10 "	·008	60	60	63	63	60	55						
11 "	·008	64	61	62	62	60	55					Nimbus.	
12 "	·032	64	60	62	61	58	55						p.
1 P. M.	·044	63	62	62	62	58	55				5		
2 "	·046	62	60	60	60	59	55			S. S. E.			
3 "	·040	61	57	59	58	58	55	55°	58° 56°				
4 "	·044	60	56	56	58	57	55			S. E.			c. p. d.
5 "	·034	60	56	56	56	56	55				4		
6 "	·032	58	56	56	56	56	55			S.E. by S.			
7 "	·018	57	54	54	54	55	55			S. E.			
8 "	·012	56	54	54	54	54	55						c. u.
9 "	·000	56	53	54	54	54	55	55°	59° 55°				
10 "	29·988	55	55	54	54	54	55						
11 "	·982	55	56	53	54	54	55						
12 "	·978	55	55	53	54	54	55						q. r.
Mean.	30·010	57·92	55·71	55·87	55·83	55·14	55	54·75					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
July 12.													
1 A. M.	29·962	55°	55°	54°	54°	54°	55°			S. E.	5	Overcast.	q. r.
2 "	·960	55	55	53	54	54	55						
3 "	·950	54	54	53	54	54	55	55°	Rain.				
4 "	·950	54	54	53	54	54	55			S. S. E.			
5 "	·904	54	54	54	54	54	55				4		
6 "	·962	55	55	54	54	54	55				6		
7 "	·944	56	54	56	55	54	55						
8 "	·964	57	58	57	58	57	55						
9 "	·972	61	62	61	62	61	55	55°	Rain.		4		
10 "	·978	64	63	64	64	64	55						p.
11 "	30·000	65	64	66	67	63	55						
12 "	·004	65	66	68	68	64	55						
1 P. M.	·004	66	71	74	72	67	55						
2 "	29·988	74	70	76	70	68	55				5		r.
3 "	·988	72	68	73	70	66	55	61°	Rain.	S. E.			
4 "	·980	72	64	67	65	64	55			S. S. E.			
5 "	·966	70	60	63	62	60	55			S. E. by S.		Stratus.	c.
6 "	·964	67	62	65	65	63	55						
7 "	·964	74	62	62	62	60	55					Cir. stra.	
8 "	·964	62	58	57	57	58	55			S. E.	4		
9 "	·954	58	56	54	54	55	55	57°	60° 56°				b. c.
10 "	·952	55	54	52	52	54	55						
11 "	·956	54	55	54	54	54	55				3		
12 "	·940	55	55	54	54	54	55				2		c.
Mean.	29·965	61·41	59·54	60·16	59·79	58·91	55	57					
July 13.													
1 A. M.	29·946	55°	54°	54°	54°	54°	55°			S. S. E.	2	Cir. stra.	c.
2 "	·948	54	54	53	53	54	55						
3 "	·960	54	54	52	53	52	55	54°	60° 56°				
4 "	·962	54	53	52	52	52	55			S. E.			
5 "	·962	52	52	50	50	51	55			E. S. E.		Cirrus.	
6 "	·968	55	64	70	70	59	55					Clear.	b.
7 "	·980	59	78	84	81	66	55						
8 "	·982	66	81	89	84	72	55			S. E.			
9 "	30·002	71	67	74	71	75	55	62°	62° 52°				
10 "	·004	70	72	78	75	78	55			S. W.	4		
11 "	·012	73	84	94	88	76	55						
12 "	·014	76	82	93	87	76	55						
1 P. M.	·014	80	82	93	87	79	56						
2 "	·016	82	84	97	90	80	56				3		
3 "	·018	87	84	99	93	80	57	64°	62° 50°				
4 "	·024	86	90	104	98	81	57			S. S. W.			
5 "	·024	87	86	100	95	79	57					Cum. st.	b. c.
6 "	·024	86	84	91	88	75	57				4		
7 "	·026	82	64	70	68	63	57						
8 "	·026	68	58	57	57	58	57			S. S. E.	3		
9 "	·026	62	56	54	54	54	56	57°	62° 54°				
10 "	·012	59	56	54	55	56	56						
11 "	·010	59	58	57	57	57	56						
12 "	·008	59	58	58	58	58	56						
Mean.	29·999	68·17	68·87	74·04	71·58	66·87	55·71	59·25					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
July 14.													
1 A. M.	30·004	59°	57°	56°	57°	57°	55°			South.	3	Cum. st.	c.
2 "	·004	57	54	53	54	54	55						
3 "	·004	56	54	54	54	54	55	56°	60° 48°				
4 "	·004	56	55	54	54	55	55			S. S. W.	2		
5 "	·026	56	56	55	55	56	55						
6 "	·040	58	58	59	58	58	55						
7 "	·040	62	66	69	66	64	55					Nimbus.	
8 "	·046	66	82	93	89	72	55			South.			
9 "	·092	68	60	68	65	59	55	58°	60° 48°				c. p. d.
10 "	·092	68	80	81	79	72	55						
11 "	·114	69	65	72	70	64	56					Cum. st.	
12 "	·120	70	76	81	78	71	55						b. c.
1 P. M.	·120	74	70	70	73	78	56						
2 "	·120	76	86	84	83	77	56			Var.	1		
3 "	·124	74	69	72	70	67	57	60°	60° 49°				
4 "	·136	85	86	94	91	80	57			Calm.			
5 "	·136	82	75	84	82	72	59						c.
6 "	·136	78	72	76	74	68	59						
7 "	·128	65	60	60	60	59	57			S. E.	1		
8 "	·118	63	59	59	59	59	56					Cumulus	b. c.
9 "	·116	62	58	58	58	58	55		62° 50°		2		
10 "	·116	60	58	57	57	58	55				1		
11 "	·116	59	56	56	56	56	55						
12 "	·116	57	54	53	53	54	55						
Mean.	30·089	65·83	66·08	67·41	66·46	62·58	55·75	58°					
July 15.													
1 A. M.	30·118	56°	54°	52°	52°	53°	56°			S. S. E.	2	Cumulus	b. c.
2 "	·118	55	54	52	52	53	56						
3 "	·118	52	50	48	48	49	56	53°	62° 52°				
4 "	·118	52	51	50	50	50	56						
5 "	·120	53	52	51	51	52	55			Calm.	0		
6 "	·136	54	58	58	56	56	55						
7 "	·148	59	78	84	84	66	55						
8 "	·166	61	66	73	71	62	55						
9 "	·166	62	78	87	84	70	55		62° 53°			Clear.	b.
10 "	·180	65	82	93	88	74	56						
11 "	·188	69	81	92	85	76	56						
12 "	·190	72	80	91	77	76	57			Var.	1		
1 P. M.	·192	74	86	99	91	80	57						
2 "	·188	76	88	104	96	82	57			S. W.			
3 "	·174	86	90	107	101	83	57	65°	62° 54°				
4 "	·174	89	92	106	102	84	57						
5 "	·174	84	92	106	101	84	56						
6 "	·164	86	90	99	96	80	56						
7 "	·164	82	72	76	76	69	56						
8 "	·164	71	59	59	59	59	56			Calm.	0		
9 "	·136	63	58	56	56	58	56	60°	63° 56°				
10 "	·124	60	55	54	54	55	56						
11 "	·120	58	56	54	54	55	56						
12 "	·116	56	53	51	52	52	56						
Mean.	30·152	66·45	69·78	73	72·33	65·75	56·21	59·33					

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

DAILY MEANS.

1841.	Barometer.	THERMOMETERS.						
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.
May 21st.	30.256	63·12	59	63·5		57·75	49·66	50·25
" 22d.	30·243	65·12	67·35	69·94		62·12	50·12	48 66
" 23d.	30·085	66·62	69·82	74·41		67·41	50·54	55·75
" 24th.	30·105	66·93	69·66	73		66·33	51·04	60
" 25th.	30·069	70·47	68·82	74·73		67	50·87	57·25
" 26th.	30·283	61·06	72·23	76	71·61	65·23	50·66	50·75
" 27th.	30·056	63·29	73·7	80·47	77·23	66·35	50·92	57·75
" 28th.	30·100	66·35	70·12	73·35	72·35	65·64	51·21	55·66
" 29th.	30·091	61·29	63·76	70·23	67·82	61·23	50·62	53·5
" 30th.	30·186	58·41	62·23	66·76	65·23	58·65	51·08	48
" 31st.	29·937	61·29	69·29	77·23	74·17	63·06	51·29	50
June 1st.	30·008	55·88	61·94	69·59	68·17	59·65	51·96	52·75
" 2d.	29·812	57·53	60·64	66·47	64·71	57·35	51·42	51·25
" 3d.	29·603	57·29	54·94	58·14	56·57	53·71	50·79	52
" 4th.	29·891	56·47	50·71				50·79	47·75
" 5th.	29·569	50·06	49	51·09	50·82	50	51·47	47
" 6th.	29·833	58·18	52·18	52·94	52·25	51·41	51	48·33
" 7th.	29·848	60·64	68·47	75·18	71·71	64·58	51·5	58·33
" 8th.	29·721	63·82	66·65	71·82	70·29	63·23	51·81	56
" 9th.	29·831	67·12	72	78·23	76·29	66·82	52·25	58·25
" 10th.	29·947	60·02	62·33	65·44	64·55	59·66	52·33	52·25
" 11th.	29·929	64·39	70·33	74·66	73·27	65·77	52·58	54·25
" 12th.	29·863	66·61	72·27	75·77	75·17	69·77	53	66·75
" 13th.	29·881	60·66	64·16	65·05	64·27	62·11	54·16	57·66
" 14th.	29·745	63·94	67·05	69·83	68·33	63·94	53·75	59·25
" 15th.	29·529	60·27	59·44	59·77	59·88	59·88	53·08	56·33
" 16th.	29·808	58·61	63	63·61	62·83	60·39	53·48	53·66
" 17th.	29·865	58·05	63·33	62·15	61·66	59·16	52·25	55
" 18th.	29·676	59·39	60·66	61·72	61·05	59·66	52·37	54
" 19th.	29·905	59·11	61·94	63	62·16	60·77	52·62	55
" 20th.	29·893	58·44	58·47	58·88	58·5	57·55	52·58	55·25
" 21st.	30·081	63·44	67·61	71·28	70·11	64·88	52·75	54
" 22d.	30·034	69·33	75·5	81·66	78·55	70·72	53·18	62·5
" 23d.	30·118	67·28	70·16	74·89	72·44	66·33	53·42	60
" 24th.	30·089	62·91	67·5	72·36	70·77	63·5	53·66	54
" 25th.	30·070	63·33	65·04	68·12	66·91	61·71	53·79	55·66
" 26th.	30·084	64·25	67·17	70·5	69·16	64·04	53·78	58·5
" 27th.	30·063	65·37	67·21	71·54	69·96	63·41	54·5	57·25
" 28th.	30·032	62·21	64·79	68·83	66·75	61·16	54·41	57·33
" 29th.	29·946	62·75	66·62	71·91	69·54	62·46	55·41	57·33
" 30th.	29·887	63·08	68·54	73·75	71·08	63·33	55·42	57·75
July 1st.	29·959	61·33	63·96	67·25	64·83	60·5	54·42	58·5
" 2d.	29·989	61·66	67·37	71·79	70·33	64·04	55·12	55·25
" 3d.	30·063	64·15	71·41	75·79	74·04	67·66		
" 4th.	30·029	65·73	72·59	76·95	74·27	69·72	55·5	63
" 5th.	30·062	68·95	70·63	74·54	72·77	66·36	55·96	
" 6th.	30·004	67·62	67·58	72·54	67·91	65·25	55·5	58·25
" 7th.	29·961	67·88	68·92	73·66	71·62	66·17	55·5	58·66
" 8th.	29·956	65·75	70·29	76·87	75·21	68·29	55·29	56·5
" 9th.	29·972	66·29	71·08	75	75·08	67·5	55·83	58·33
" 10th.	30·022	64·62	65·83	65·79	63·54	64·37	55·75	58
" 11th.	30·010	57·92	55·71	55·87	55·83	55·14	55	54·75
" 12th.	29·965	61·41	59·54	60·16	59·79	58·91	55	57
" 13th.	29·999	68·17	68·87	74·04	71·58	66·87	55·71	59·25
" 14th.	30·089	65·83	66·08	67·41	66·46	62·58	55·75	58
" 15th.	30·152	66·45	69·78	73	72·33	65·75	56·21	59·33
Gen. Mean.	29·968	62·82	65·63	69·63	67·83	62·85	53·09	55·69

OBSERVATORY.

FORT NISQUALLY, OREGON TERRITORY.

RESULTS.

BAROMETER.

Mean of 56 days,	29·968
Highest mean,	30·283
Lowest mean,	29·529
Highest point,	30·334
Lowest point,	29·472

THERMOMETER WITH BLACK BULB.

Mean of 56 days,	65·63°
Highest mean,	75·5
Lowest mean,	49
Highest point,	102
Lowest point,	38

THERMOMETER WITH WHITE WOOL.

Mean of 50 days,	67·83°
Highest mean,	78·55
Lowest mean,	50·82
Highest point,	107
Lowest point,	37

TEMPERATURE OF WATER.

Mean of 55 days,	53·09°
Highest mean,	56·21
Lowest mean,	49·66
Highest point,	57
Lowest point,	48

ATTACHED THERMOMETER.

Mean of 56 days,	62·82°
Highest mean,	70·47
Lowest mean,	50·06
Highest point,	92
Lowest point,	37

THERMOMETER WITH BLACK WOOL.

Mean of 55 days,	69·63°
Highest mean,	81·66
Lowest mean,	51·09
Highest point,	112
Lowest point,	38

THERMOMETER WITHOUT WOOL.

Mean of 55 days,	62·85°
Highest mean,	70·72
Lowest mean,	50
Highest point,	98
Lowest point,	37

THERMOMETER AT MAST-HEAD.

Mean of 54 days,	55·69°
Highest mean,	66·75
Lowest mean,	47
Highest point,	78
Lowest point,	40

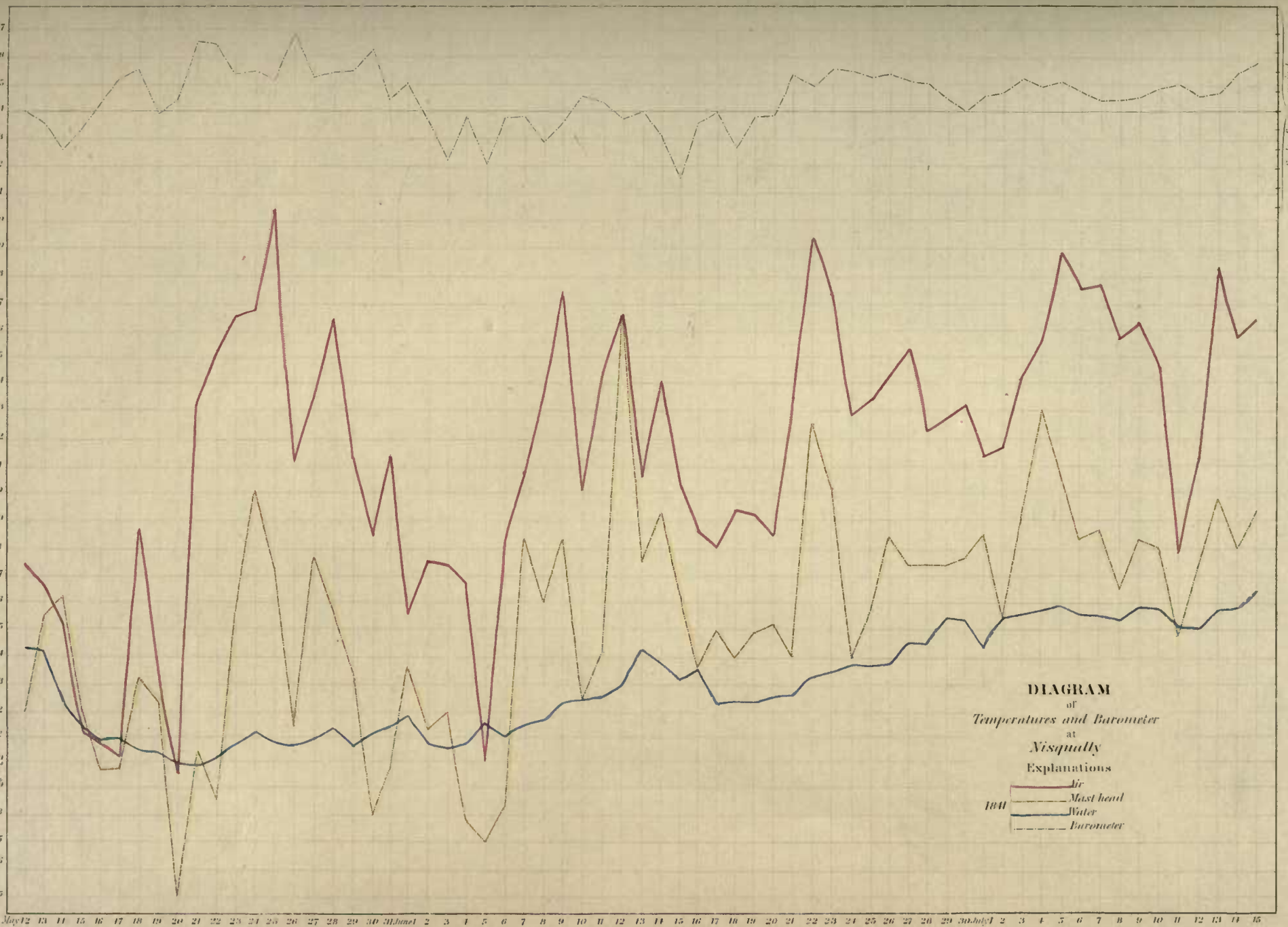

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DIAGRAM
of
Temperatures and Barometer
at
Nisqually
Explanations
1841
Air
Mast head
Water
Barometer

No. 1911
ARCHIVES

U. S. SHIP VINCENNES.

OFF NISQUALLY, PUGET SOUND.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 16.												
1 A. M.			55°	56°				Calm.	0	Clear.	b.	
2 "			54	56				Var.	1			
3 "			52	56	50°	30·160	62° 52°					
4 "			52	56				Calm.	0			
5 "			54	55							b.	
6 "			55	55								
7 "			55	55								
8 "			55	55								
9 "			55	55		30·100	66° 56°					
10 "			56	56				N^{d}.	2			Brought the instruments from the Observatory.
11 "			56	56								
12 "			56	56								
1 P. M.			61	56								
2 "			63	57						Cirrus.		
3 "	Off Nisqually.		63	57		30·100	64° 56°					
4 "			63	57					3			Boats returned from surveying duty.
5 "			63	57						Stratus.	b. c.	
6 "			63	57								
7 "			63	57							c.	
8 "			63	56					2			
9 "			62	56	60°	30·100	66° 58°					
10 "			62	56				Calm.	0			
11 "			57	56						Cir. stra.	b. c.	
12 "			58	56								
Mean.			58·16	56·04	55	30·115						
July 17.												
1 A. M.			56°	55°				Calm.	0	Cir. stra.	b. c.	
2 "			56	55								
3 "			55	55		30·100	66° 56°					
4 "			55	55								
5 "			56	55								
6 "			58	55								
7 "			59	56								
8 "			59	56				Var.	1			
9 "			59	56		30·100	65° 58°			Cirrus.		
10 "			60	56				Calm.	0			
11 "			60	56								Boats employed surveying.
12 "			60	56						Cir.cum		
1 P. M.			70	57								
2 "			67	57				S. W.	1			
3 "	Off Nisqually.		68	57		30·160	67° 58°					
4 "			68	57						Clear.	b.	
5 "			75	57				Calm.	0			
6 "			77	57								
7 "			74	57				S. W.	1			
8 "			62	56							b.	
9 "			66	56		30·180	66° 60°					
10 "			65	56						Cum.	b. c.	
11 "			63	56								
12 "			62	56				Calm.	0			
Mean.			62·92	56·04		30·135						

U. S. SHIP VINCENNES.

PUGET SOUND, OREGON TERRITORY.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 18.												
1 A. M.			60°	56°				Calm.	0	Cum.	b. c.	
2 "			60	55								
3 "			58	55	57°	30·100	67° 58°					
4 "			57	57								
5 "			58	56						Clear.	b.	
6 "			60	56								
7 "			62	56								
8 "			64	56								
9 "			64	56	65°	30·260	68° 59°					
10 "			64	56								
11 "			70	56								
12 "			70	57				N^{d}.	1			
1 P. M.			72	57								
2 "			72	57						Cum.	b. c.	Got under way.
3 "			72	57	60°	30·190	67° 59°	W^{d}.	3			Beating out of Puget Sound.
4 "			72	57								
5 "			71	57				W. S. W.	2			
6 "			71	57								
7 "			70	56				S. W.	1			
8 "			66	55								
9 "			60	55	58°	30·180	68° 58°			Cir. stra.	c.	Anchored in 32 fms. water.
10 "			58	55				North.				
11 "			58	55								
12 "			58	54								
Mean.			64·46	56	60	30·182						
July 19.												
1 A. M.			56°	54°				North.	2	Nimbus	c.	
2 "			56	54								
3 "			56	55	55°	30·160	66° 56°					
4 "			56	55				N. E.	1			
5 "			56	55					2	Cum. st.	b. c.	Got under way.
6 "			55	55								
7 "			55	55								Passed through the Narrows.
8 "			55	55					1			
9 "			55	55		30·200	65° 58°	West.				
10 "			59	55								
11 "			60	55								
12 "			62	55					2	Over-cast.	o.	Beating out of Admiralty Inlet.
1 P. M.			63	55				North.				
2 "			63	55								
3 "			61	54	60°	30·160	69° 60°					
4 "			68	54				N. E.		Cir. stra.	b. c.	
5 "			59	54								
6 "			61	54					3			
7 "			60	54					2			
8 "			60	54				N. N. E.				
9 "			59	54		30·140	69° 61°					
10 "			58	54								
11 "			57	54							o.	Anchored in 22 fms. water.
12 "			56	54					1			
Mean.			58·58	54·5	57·5	30·165						

Admiralty Inlet.

Puget Sound.

U. S. SHIP VINCENNES.

ADMIRALTY INLET, OREGON TERRITORY.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 20.												
1 A. M.			56°	55°				Calm.	0	Cir.stra.	c.	
2 "			56	55								
3 "			55	55		30·140	69° 60°					
4 "			55	55								
5 "			55	55								
6 "			58	55								
7 "			58	55				N^{d}.	2			
8 "			59	55							b. c.	Got under way.
9 "			62	55	60°	30·200	64° 52°					
10 "			62	55								
11 "			65	55					1			
12 "			66	55						Clear.	b.	
1 P. M.			65	56				N. W.	3			
2 "			66	56					2			
3 "	Admiralty Inlet.		67	56	66°	30·200	64° 56°					
4 "			62	56								Working down Admiralty Inlet.
5 "			60	56								
6 "			59	56					3			
7 "			56	56				N. N. W.				
8 "			57	56				NW.byN				
9 "			57	56		30·140	64° 54°	N. W.	4			
10 "			57	55								
11 "			57	55								
12 "			56	57				N. N. W.				
Mean.			59·42	55·46	63	30·170						
July 21.												
1 A. M.			56°	56°				North.	4	Clear.	b.	
2 "			55	55					2			Anchored in 13 fms. water.
3 "			52	56	50°	30·140	64° 56°					
4 "			52	56					1			
5 "			51	56						Cirrus.	b. c.	
6 "			53	56				Var.		Stratus.	c.	
7 "			53	56				Calm.	0			
8 "			55	56				Var.	1			
9 "			61	56	58°	30.180	66° 54°			Cum. st.	b. c.	
10 "			62	56				N. E.	2			
11 "			62	56								
12 "	Admiralty Inlet.		65	56				North.	1			
1 P. M.			62	57								Got under way.
2 "			64	57				South.	2			
3 "			64	57	64°	30·200	67° 53°					
4 "			64	57						Clear.	b.	
5 "			64	56								
6 "			64	56				Var.	1			
7 "			64	55				Calm.	0			
8 "			61	55				Var.	1			
9 "			60	55	58°	30·220	65° 54°	Calm.	0			
10 "			59	55								Anchored in 6 fms. water.
11 "			55	54				S^{d}.	2			
12 "			54	54					1			
Mean.			58·83	55·79	60	30·185						

U. S. SHIP VINCENNES.

NEW DUNGENESS, OREGON TERRITORY.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 22.												
1 A. M.			54°	55°				E. S. E.	2	Cir.cum	b. c.	
2 "			54	55					3			
3 "			54	55	53°	30·240	60° 54°					
4 "			56	55				S. E.	2			
5 "			56	56								
6 "			56	56								Got under way.
7 "			56	57								
8 "			56	57				S. S. E.	3			The Porpoise joined
9 "			56	57	57°	30·260	64° 54°					company.
10 "			58	56					2			
11 "			59	56				South.		Clear.	b.	
12 "			64	56								
1 P. M.			64	56					1			
2 "			65	54				E. N. E.	2			
3 "			63	54	62°	30·260	66° 52°	N. E.		Cum. st.	b. c.	Anchored in New Dungeness Harbour, in 11½ fathoms water.
4 "			62	53								
5 "			61	53					1			
6 "			60	52						Stratus.	c.	
7 "			56	50				S. W.	2			
8 "			55	50								
9 "			55	52		30·200	66° 54°					
10 "			54	52				S. S. W.		Cirrus.	b. c.	
11 "			53	52				S. W.	4			
12 "			52	52					1	Clear.	b.	
Mean.			57·54	54·21	57·33	30·240						
July 23.												
1 A. M.			54°	52°				S. W.	5	Clear.	b.	
2 "			54	52					1			
3 "			54	52	51°	30·200	66° 50°		2			
4 "			54	52				W. S. W.				
5 "			54	52								
6 "			56	52				West.				
7 "			58	53								
8 "			57	53						Cirrus.	b. c.	
9 "			61	52	59°	30·240	65° 54°	Calm.	0			
10 "			62	52				Var.	1			
11 "			65	53				Calm.	0			
12 "			67	53								
1 P. M.			68	53								
2 "			67	53						Clear.	b.	
3 "			67	53	64°	30·240	65° 54°					
4 "			70	55								
5 "			74	55								The Porpoise anchor-
6 "			57	55				Var.	1			ed near us.
7 "			55	55				S^{d}.	2			
8 "			54	56					1			
9 "			54	54	62°	30·190	64° 56°					
10 "			54	54				Calm.	0			
11 "			54	54				S^{d}.	1			
12 "			54	54								
Mean.			59·33	53·29	59	30·217						

New Dungeness Harbour.

U. S. SHIP VINCENNES.

NEW DUNGENESS, OREGON TERRITORY.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 24.												
1 A. M.			54°	52°				S. S. E.	2	Clear.	b.	
2 "			54	52								
3 "			54	52	51°	30·190	67° 60°					
4 "			54	52				Calm.	0			
5 "			54	52				Var.	1			
6 "			56	52								
7 "			58	53								
8 "			57	53								
9 "			61	52	60°	30·140	69° 59°					
10 "			62	52				Calm.	0			
11 "			65	52						Cum.	b. c.	
12 "			67	57								
1 P. M.			68	57								Boats absent surveying De Fuca's Straits.
2 "			67	57				Wd.	1	Clear.	b.	
3 "			67	56	68°	30·080	67° 59°					
4 "			70	56				Calm.	0			
5 "			74	56								
6 "			57	56								
7 "			55	55								
8 "			54	53								
9 "			54	52	59°	29·980	60° 50°	Wd.	1			
10 "			54	52				W. by S.	2			
11 "			54	51								
12 "			53	51					4			
Mean.	New Dungeness Harbour.		59·29	53·29	59·5	30·097						
July 25.												
1 A. M.			56°	52°				West.	5	Clear.	b.	
2 "			56	52								
3 "			56	52	54°	29·980	60° 52°					
4 "			55	52								
5 "			55	52					6			
6 "			56	52								
7 "			56	52								
8 "			58	52				W. S. W.				
9 "			55	52	54°	29·980	60° 54°	West.				
10 "			56	52								
11 "			57	52								Boats absent surveying.
12 "			57	52				S. W.				
1 P. M.			57	52					5			
2 "			57	52				W. S. W.				
3 "			58	52	56°	29·980	64° 56°	West.				The Porpoise got under way and stood to the N. E.
4 "			62	52								
5 "			59	52					6			
6 "			54	52								
7 "			54	52					5			
8 "			54	52						Cir. stra.	c.	
9 "			54	52	53°	29·980	59° 56°					
10 "			54	52					4			
11 "			54	52								
12 "			53	52								
Mean.			55·96	52	54·25	29·980						

U. S. SHIP VINCENNES.

NEW DUNGENESS, OREGON TERRITORY.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 26.												
1 A. M.			53°	51°				W^d.	4	Cir. stra.	c.	
2 "			54	51								
3 "			53	52	51°	30·000	64° 51°		2			
4 "			53	52								
5 "			54	52								
6 "			54	52					1			
7 "			54	52				W. N. W.		Stratus.		
8 "			54	52								
9 "			58	53	56°	30·080	59° 54°	N. W.	2			
10 "			59	53								
11 "			61	53								Boats surveying the adjoining harbours.
12 "			61	53								
1 P. M.			57	54					3			
2 "			59	54								
3 "			58	54	56°	30·100	60° 52°	W. N. W.	4			
4 "			58	54				NWbyW				Heard of the loss of the Peacock on the bar of the Columbia River.
5 "			58	54								
6 "			58	54								
7 "			58	54								
8 "			55	53					5		q. c.	
9 "			54	52	51°	30·100	59° 52°	West.				
10 "			54	52					4			
11 "			54	52					5			
12 "			54	52				W. by N.			c.	
Mean.			56·04	52·71	53·5	30·070						
July 27.												
1 A. M.			53°	52°				W. S. W.	6	Stratus.	c.	
2 "			53	52								
3 "			53	52	50°	30·100	60° 54°					
4 "			53	52								
5 "			53	53				S. W.	5			
6 "			54	53								
7 "			56	53					4		c. m.	
8 "			56	53				W. S. W.				
9 "			55	55	54°	30·140	62° 56°					
10 "			56	53				W. by N.				
11 "			57	53								
12 "			57	53							f.	
1 P. M.			57	53								
2 "			57	53					3		F.	
3 "			57	53	55°	30·140	60° 54°	W. S. W.	4			
4 "			57	53								
5 "			57	53								
6 "			54	53								
7 "			53	52								
8 "			52	52				West.				
9 "			52	52	50°	30·180	59° 54°					
10 "			52	52							f.	
11 "			52	52								
12 "			52	52								
Mean.			54·5	52·58	52·25	30·140						

New Dungeness Harbour.

U. S. SHIP VINCENNES.

NEW DUNGENESS, OREGON TERRITORY.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 28.												
1 A. M.			52°	53°				W. S. W.	3	Stratus.	f.	
2 "			52	53								
3 "			52	53	50°	30·180	59° 55°		2			
4 "			51	53				West.			F.	
5 "			51	52							f.	
6 "			52	52						Cir. stra.		
7 "			53	52								
8 "			54	52							b. c.	
9 "			57	52	56°	30·180	60° 54°			Clear.	b.	
10 "			58	52					3			
11 "			57	52				W. by N.				
12 "			61	52								Boats all returned, having finished the surveys.
1 P. M.			71	54								
2 "			69	54				West.	4			
3 "			62	53	60°	30·160	60° 52°	W. S. W.				
4 "			58	53								
5 "			61	53								
6 "			60	53						Cum. st.	b. c.	
7 "			59	53				S. W.				
8 "			58	53					3			
9 "			57	53	57°	30·100	60° 54°		4	Stratus.	c.	
10 "			57	53								
11 "			57	53					2			
12 "			57	53				W. S. W.		Cir. stra.		
Mean.			57·33	52·75	55·75	30·155						
July 29.												
1 A. M.			54°	52°				W. S. W.	2	Cir. stra.	b. c.	
2 "			55	52								
3 "			55	52	52°	30·120	59° 54°					
4 "			56	52					4			
5 "			56	52				West.	3			
6 "			57	52								
7 "			58	52								
8 "			59	52				W. by N.	5		f.	
9 "			59	52	57°	30·100	59° 50°					
10 "			59	53								
11 "			59	54					4			
12 "			58	54						Clear.	b.	
1 P. M.			58	54								
2 "			58	54				W. N. W.	6			
3 "			60	54	58°	30·120	58° 52°					
4 "			61	54								
5 "			59	53				W. by N.	7			
6 "			59	53								
7 "			57	53					9			
8 "			56	53				West.		Stratus.	c.	
9 "			56	53	54°	30·140	58° 50°					
10 "			56	53					8			
11 "			56	53								
12 "			56	53								
Mean.			57·46	52·87	55·25	30·120						

New Dungeness Harbour.

New Dungeness Harbour.

U. S. SHIP VINCENNES.

NEW DUNGENESS, OREGON TERRITORY.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
July 30.												
1 A. M.			55°	53°				W. S. W.	7	Stratus.	c.	
2 "			54	53								
3 "			54	53	52°	30·160	57° 50°					
4 "			54	52					6			
5 "			54	52				West.				
6 "			55	52								
7 "			56	52								
8 "			58	52								
9 "			58	52	56°	30·200	59° 52°					
10 "			59	53						Cum. st.	b. c.	
11 "			58	53					7			
12 "			58	53				W. by N.				
1 P. M.			58	53								
2 "			58	53					6			
3 "			57	53	55°	30·200	59° 52°	West.				The Porpoise anchored near us.
4 "			57	53				W. by S.				
5 "			58	53				W. S. W.	5			
6 "			58	53								
7 "			55	53						Cir. stra.		
8 "			55	53				West.	6			
9 "			55	53	54°	30·180	59° 50°			Cirrus.		
10 "			55	53								
11 "			55	53								
12 "			54	53					5	Clear.	b.	
Mean.			56·16	52·75	54·25	30·185						
July 31.												
1 A. M.			54°	53°				West.	5	Clear.	b.	
2 "			53	53								
3 "			53	53	51°	30·160	60° 50°					
4 "			53	53				W. S. W.	4			
5 "			54	52				S. W.				
6 "			55	52								
7 "			56	52								
8 "			58	52				W. S. W.				
9 "			60	54	59°	30·180	60° 50°					
10 "			64	54				S. W.				
11 "			66	54					5			
12 "			66	54								
1 P. M.			62	54					6			
2 "			60	54								Got under way, the Porpoise in company.
3 "			59	54		30·180	60° 50°					
4 "			59	54					5			
5 "			58	54								
6 "			56	53								
7 "			54	53					4			Working out of De Fuca's Straits.
8 "			54	53					3			
9 "			54	53	53°	30·143	59° 52°					
10 "			53	53					4			
11 "			53	53					3			
12 "			53	53								
Mean.			56·96	53·21	54·33	30·165						

New Dungeness Harbour.

New Dungeness Harbour.

U. S. SHIP VINCENNES.

DE FUCA'S STRAITS.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 1.												
1 A. M.			53°	53°				S. W.	3	Clear.	b.	Beating to the westward, in De Fuca's Straits.
2 "			53	53				W. S. W.	2			
3 "			53	53	53°	30·180	60° 52°					
4 "			52	52								
5 "			52	52				S.W.byS.	1			
6 "			52	52				Calm.	0			
7 "			53	52								
8 "			53	52				S. S. W.	1			
9 "			53	53	60°	30·200	61° 53°					
10 "			60	54								
11 "			60	54								
12 "			57	54								
1 P. M.			61	57								The Porpoise in company.
2 "			61	56				Calm.	0			
3 "			61	55	59°	30·120	66° 54°					
4 "			60	55				West.	1			
5 "			60	55								
6 "			60	55				W. S. W.	2			
7 "			56	53								
8 "			55	53								
9 "			55	54	54°	30·100	65° 54°		1			
10 "			54	54				S. W.				
11 "			53	53				S. S. W.				Observed an eclipse of the moon.
12 "			53	53				Calm.	0			
Mean.			55·92	53·62	56·5	30·150						
Aug. 2.												
1 A. M.			53°	53°				S. S. W.	1	Clear.	b.	In De Fuca's Straits.
2 "			52	53								
3 "			52	53	57°	30·100	59° 54°					
4 "			52	53				Calm.	0			
5 "			52	53								
6 "			52	54								
7 "			54	54								
8 "			57	54								
9 "			57	54		30·120	60° 50°					
10 "			59	55								
11 "			57	55				N. W.	2			
12 "			59	55								
1 P. M.			59	55				West.	3			Anchored in Scarborough Harbour, in 10½ fathoms water.
2 "			60	55								
3 "			60	55	60°	30·120	60° 50°					
4 "			59	54					4			
5 "			60	54								
6 "			61	54				W. S. W.				
7 "			62	54								The Porpoise anchored.
8 "			59	54				S. S. W.				
9 "			59	54		30·100						
10 "			58	53				South.	2			
11 "			57	55								
12 "			52	50								
Mean.			56·75	53·87	58·5	30·110						

De Fuca's Straits.

Scarborough Harbour.

U. S. SHIP VINCENNES.

FROM DE FUCA'S STRAITS TO COLUMBIA RIVER.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 3.												
1 A. M.			52°	52°				Calm.	0	Clear.	b.	
2 "			52	52								
3 "			51	52	50°	30·100	60° 50°					
4 "			51	52						Cir. stra.	c.	
5 "			53	51								
6 "			53	51								
7 "			54	52								
8 "			55	52				N^{d}.	1			
9 "			56	53	54°	30·140	59° 52°					
10 "			56	53					2			
11 "			58	53								
12 "			60	54				N. W.				
1 P. M.			60	54					3			
2 "			59	54				West.				Got under way with the Porpoise in company.
3 "			58	54	56°	30·140	59° 52°					
4 "			57	54				W. by S.	2			
5 "			57	53								
6 "			55	53								
7 "			54	53								Cape Flattery bore S. 30° E.
8 "			54	53								
9 "			53	52	53°	30·080	58° 54°	W. S. W.				Saw many fin-back whales.
10 "			53	52								
11 "			52	52							c. m.	
12 "			52	52					1		f.	
Mean.			54·79	52·62	53·25	30·115						
Aug. 4.												
1 A. M.			52°	53°				Calm.	0	Over-cast.	F.	
2 "			52	53								
3 "			53	53	50°	30·080	57° 53°					
4 "			53	53								
5 "			53	53								Sounded in 60 fms.; sand and pebbles.
6 "			53	53				S. W.	1			
7 "			54	52							f.	
8 "			54	52				West.				
9 "			55	53	55°	30·080	Mist.					
10 "			56	53					2			Course south.
11 "			58	53				W. S. W.				Saw a number of whales.
12 "	48° 24	124° 56′	57	53								
1 P. M.			59	54				West.				Sounded in 75 fms.; gray sand.
2 "			59	54								
3 "			59	54	58°	30·080	Mist.	W. S. W.			F.	
4 "									3			
5 "								SW. by W				
6 "									2			Course S. S. E.
7 "			56	55								
8 "			55	55							f.	
9 "			56	57	54°	30·100	Mist.					
10 "			56	57					1			
11 "			56	57								Sounded in 80 fms.; soft mud.
12 "			56	57								
Mean.			55·33	54·09	54·25	30·085						

Scarborough Harbour.

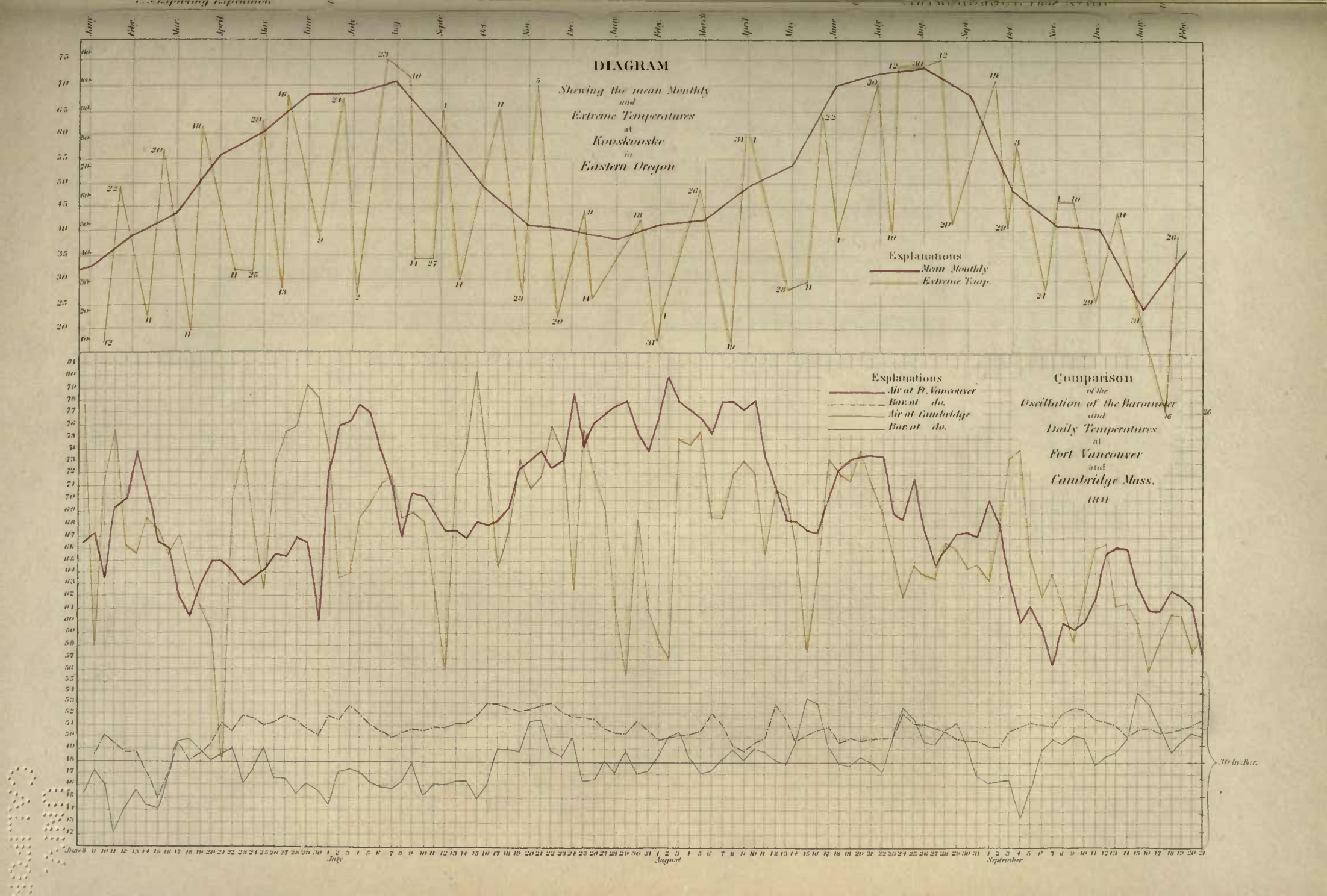
DIAGRAM
Shewing the mean Monthly
and
Extreme Temperatures
at
Kooskooske
in
Eastern Oregon
Explanations
Mean Monthly
Extreme Temp.
Comparison
of the
Oscillation of the Barometer
and
Daily Temperatures
at
Fort Vancouver
and
Cambridge Mass.
1841
Explanations
Air at Ft. Vancouver
Bar. at do.
Air at Cambridge
Bar. at do.
30 In. Bar.
July
August
September

U. S. SHIP VINCENNES.

FROM DE FUCA'S STRAITS TO COLUMBIA RIVER.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 5.												
1 A. M.			55°	57°				W. S. W.	2	Over-	F.	Course S. S. E.
2 "			55	57						cast.		
3 "			55	57	55°	30·160						
4 "			55	57								
5 "			55	56					3		f.	
6 "			55	56				West.				Sounded in 100 fms.;
7 "			56	56					2			gray sand.
8 "			57	57								
9 "			58	57	57°	30·180						
10 "			58	58						Clear.	b.	
11 "			59	58								Course S. E.
12 "	47° 21′	125° 08′	60	58								
1 P. M.			60	58				N. W.				The Porpoise in com-
2 "			60	58								pany.
3 "			59	58	57°	30·200						
4 "			58	57				West.				
5 "			58	58						Cir. stra.	b. c.	Sounded in 90 fms.;
6 "			58	58				S. W.	3			dark green mud.
7 "			56	58				W. S. W.				
8 "			56	58				N. W.		Over-	o.	
9 "			56	58	54°	30·220				cast.		
10 "			56	57				N. N. W.				Sounded in 85 fms.;
11 "			56	57					2			black mud.
12 "			56	56				Nd.				
Mean.			56·96	57·29	55·75	30·190						
Aug. 6.												
1 A. M.			55°	57°				Nd.	3	Over-	o.	Course S. E.
2 "			55	57						cast.	r.	
3 "			55	57	54°	30·240			2		o.	
4 "			55	57				N. N. W.				
5 "			55	57								
6 "			55	57					3			Made land to the east-
7 "			55	57				N. W.				ward.
8 "			56	57					4	Cir. stra.	c.	Course E. by S.
9 "			56	56	54°	30·250						The Flying-Fish
10 "			56	56								joined.
11 "			57	55				N. N. W.				Hove to off Columbia
12 "			57	55					3	Clear.	b.	River Bar.
1 P. M.			58	57								The Porpoise stood in
2 "			58	57				North.				to the river, also the
3 "			58	57	55°	30·290						Flying-Fish.
4 "			57	58					2			
5 "	Off Columbia River.		56	58						Cum.	b. c.	
6 "			57	58				N. N. W.	3			
7 "			57	58						Cum. st.		
8 "			57	58					4			Steering to the west-
9 "			57	58	55°	30·300			3	Stratus.	c.	ward.
10 "			57	58								
11 "			56	57								
12 "			56	57								
Mean.			56·29	57·04	54·5	30·070						

U. S. SHIP VINCENNES.

FROM COLUMBIA RIVER TO SAN FRANCISCO.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 7.												
1 A. M.			58°	59°				N. W.	3	Over-	o.	Steering to the west-
2 "			58	59						cast.	f.	ward.
3 "			56	59	57°	30·300	58° 50°					
4 "			56	59								
5 "			56	59								
6 "									2			No bottom with 90
7 "								N^{d}.				fathoms.
8 "			54	57								
9 "			54	57	58°	30·320	57° 52°					Steering to the east-
10 "			56	58					1			ward.
11 "			56	58								Passed a quantity of
12 "			56	58				S. W.	3			villellæ.
1 P. M.												
2 "								S. S. W.				
3 "					53°	30·100						
4 "									2			Beating to the south-
5 "												ward.
6 "								South.				Standing off and on.
7 "										Stratus.	b. c.	
8 "											c.	
9 "					53°	30·100						
10 "								S. W.	1			
11 "												
12 "								W. S. W.	2		b. c.	Sounded in 70 fa-
Mean.			56	58·3	55·25	30·205						thoms; gray sand.
Aug. 8.												
1 A. M.			55°	57°				W. N. W.	3	Stratus.	c.	Standing off and on.
2 "			55	57								
3 "			54	57		30·080			2	Over-	o.	
4 "			54	57						cast.		
5 "			53	57							f.	
6 "			53	57					3			Cape Disappointment
7 "			53	57				West.			c.	in sight to the east-
8 "			54	57								ward.
9 "			55	58		30·060		W. by N.			f.	
10 "			54	58								
11 "			54	58					4		m.	
12 "			54	58								
1 P. M.			55	58				West.				Course S. by W.
2 "			58	59						Cir. stra.		
3 "			59	58	57°	30·000						Lost sight of land.
4 "			59	60					3			
5 "			59	61					4			
6 "			58	62								
7 "			57	62								
8 "			56	62								
9 "			59	62	57°	30·000			2			
10 "			58	62								
11 "			58	62							f.	
12 "			58	62								
Mean.			55·92	59·08	57	30·045						

U. S. SHIP VINCENNES.

FROM COLUMBIA RIVER TO SAN FRANCISCO.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 9.												
1 A. M.			59°	61°				W. N. W.	1	Over-	f.	Steering to the S. W.
2 "			59	61						cast.		
3 "			58	61	57°	30·020	Mist.					
4 "			58	61				West.				
5 "			57	61				Calm.	0			
6 "			59	61				W. S. W.	1			
7 "			61	61				West.			o.	
8 "			61	61				N. W.			f.	
9 "			60	62		30·020	Mist.		2			
10 "			60	63								
11 "			60	63					3			
12 "	44° 59′	125° 40′	60	63								
1 P. M.			67	64				W. N. W.				Steering to the east-
2 "			67	64								ward.
3 "			67	63	62°	30·020		W. S. W.			o.	
4 "			66	63								Steering to the S. W.
5 "			62	62				S. W.				Sounded with 180 fa-
6 "			59	61								thems; no bottom;
7 "			57	61				S. E.			d.	water light green.
8 "			56	61								
9 "			58	61		30·020	Rain.					
10 "			58	61					4		f. d.	
11 "			59	60					3			
12 "			59	60								
Mean.			60·29	61·66	59·5	30·020						
Aug. 10.												
1 A. M.			60°	61°				S. E.	3	Over-	f.	Steering to the S. W.
2 "			60	61				S. W.	2	cast.		Course S. S. E.
3 "			60	61	57°	30·080	Mist.		3			
4 "			60	61					2			
5 "			59	58							F.	
6 "			59	57					1			
7 "			59	59								
8 "			59	59				W. S. W.			f.	
9 "			59	59	58°	30·080				Stratus.	c.	
10 "			61	60								Passed quantities of
11 "			62	60								villellæ.
12 "	43° 51′	125° 44′	61	60				W. N. W.				
1 P. M.			63	63								Water light green.
2 "			61	62					2			
3 "			61	61	61°	30·080	64° 52°					
4 "			60	61				N. N. W.				
5 "			60	61								
6 "			59	61								
7 "			59	61				N. E.				
8 "			59	61							f.	
9 "			58	61	57°	30·080	Mist.					
10 "			58	61					1			
11 "			57	62								
12 "			57	62								
Mean.			59·62	60·54	58·25	30·080						

U. S. SHIP VINCENNES.

FROM COLUMBIA RIVER TO SAN FRANCISCO.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 11.												
1 A. M.			56°	61°				N. N. W.	1	Over-	f.	Steering to the S. W.
2 "			56	61				Calm.	0	cast.		
3 "			56	61	56°	30·080						
4 "			57	61								
5 "			59	61								
6 "			60	61				S. E^{d}.	1			
7 "			60	61								
8 "			60	61					2			
9 "			58	61	58°	30·100		S. S. E.				Steering to the eastward.
10 "			58	61								
11 "			58	61				S. by E.	4			Land in sight to the eastward.
12 "	43° 09′	125° 11′	54	61								
1 P. M.			56	58								Saw a number of fin-back whales.
2 "			59	57				South.				
3 "			58	57	58°	30·200			2			
4 "			59	57								Steering to the S. W.
5 "			57	53								
6 "			55	58								
7 "			55	54				S. S. E.				
8 "			56	54				South.		Cir. stra.	b. c.	
9 "			56	56	57°	30·220	57° 48°		1			
10 "			55	56								
11 "			55	56								No bottom with 110 fathoms.
12 "			55	57								
Mean.			57·16	58·54	57·25	30·150						
Aug. 12.												
1 A. M.			56°	56°				South.	1	Cir. stra.	b. c.	Steering to the S. W.
2 "			56	56								
3 "			57	56	57°	30·240		Calm.	0			
4 "			57	56				N. E.	1			
5 "			57	56				Calm.	0			
6 "			57	56								
7 "			58	54				N. N. E.	1			
8 "			59	56				N. by W.				Course S. by E.
9 "			59	56	60°	30·320	58° 48°		2			
10 "			58	56								High land in sight to the N. E.
11 "			59	58					3			
12 "	42° 27′	125° 43′	58	58								
1 P. M.			58	56								Course S. S. E.
2 "			59	56				N. W.				
3 "			60	57	58°	30·280	58° 48°		4	Clear.	b.	Passed through some small patches of kelp.
4 "			59	57								
5 "			58	57								
6 "			58	57				N. N. W.				
7 "			58	56				NW. by N			b. w.	
8 "			58	56								
9 "			57	56	56°	30·200	58° 50°					
10 "			57	56								
11 "			57	56								
12 "			57	56								
Mean.			57·79	56·25	57·75	30·260						

U. S. SHIP VINCENNES.

FROM COLUMBIA RIVER TO SAN FRANCISCO.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 13.												
1 A. M.			58°	58°				N. W.	4	Clear.	b.	Course S. S. E.
2 "			58	59								
3 "			58	59	56°	30·140	60° 48°					
4 "			58	58								
5 "			58	58				N. N. W.				
6 "			59	58					5			
7 "			58	58								
8 "			58	58					6	Stratus.	c.	Land in sight to the eastward.
9 "			58	57	57°	30·140	60° 48°					
10 "			57	57								
11 "			57	58							c. u.	Water slate colour.
12 "	39° 24	125° 05′	60	59					7			
1 P. M.			61	57								
2 "			60	57				N. W.				
3 "			61	57	59°	30·000	61° 51°			Cum. st.		Steering to the south-eastward.
4 "			60	57								
5 "			58	55					8			
6 "			58	55					9			
7 "			57	54								
8 "			57	54					10		f.	
9 "			56	54		29·980	57° 50°					
10 "			56	54							F.	Lying to, head to the S. W.
11 "			55	53					9			
12 "			55	53								
Mean.			57·96	56·54	57·33	29·065						
Aug. 14.												
1 A. M.			55°	52°				N. W.	9	Over-cast.	F.	Lying to, head to the S. W.
2 "			55	52								
3 "			55	52	54°	29·980	58° 54°				f.	
4 "			55	52					8			Steering to the N. E.
5 "			56	55				N. N. W.		Clear.	b.	
6 "			57	55					5			Land in sight to the eastward.
7 "			56	55								
8 "			56	57				NW. by N				
9 "			56	55	59°	29·860	58° 54°					
10 "			56	55					4			
11 "			55	55								
12 "			56	57								
1 P. M.			56	55				N. W.	6			Anchored in the harbour of Yerba Buena, in 5½ fathoms water.
2 "			56	56						Cir. stra.	b. c.	
3 "			56	57			57° 54°					
4 "			56	57				W. N. W.		Over-cast.	o.	
5 "			56	58								
6 "			57	60				West.				
7 "			55	60								
8 "			55	57				S. W.			F. q.	
9 "			55	58		29·800			7			
10 "			55	58					6			
11 "			55	60								
12 "			54	60								
Mean.			55·58	56·16	56·5	29·880						

Off San Francisco.

U. S. SHIP VINCENNES.

SAN FRANCISCO, CALIFORNIA.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 15.												
1 A. M.			54°	60°				S. W.	5	Over-	F.	
2 "			55	60						cast.		
3 "			55	62	58°	29·900						
4 "			55	62					4			
5 "			55	62								
6 "			55	62								
7 "			56	62							F.p.d.	
8 "			56	62					3			
9 "			56	61	54°	29·900						
10 "			57	61				S. S. W.		Cir. stra.	c.	
11 "			58	61								
12 "			59	61								
1 P. M.			59	61								
2 "			59	61					4			
3 "	Yerba Buena.		58	62	57°	29·920	57° 54°					
4 "			58	62					3			
5 "			58	62				N. W.	1			
6 "			57	61								
7 "			57	60				W. S. W.				
8 "			57	60				S. S. W.	4			
9 "			57	60	56°	29·960						
10 "			57	60						Over-	o.	
11 "			56	59						cast.		
12 "			56	59								
Mean.			56·66	60·96	56·25	29·920						
Aug. 16.												
1 A. M.			55°	60°				S. S. W.	4	Over-	o.	
2 "			55	60						cast.		
3 "			55	61	57°	30·000	58° 54°					
4 "			55	62								
5 "			55	62								
6 "			55	60						Cir. stra.		
7 "			58	59								
8 "			60	58				S. W.				
9 "			60	58		30·000	58° 52°		5			
10 "			61	59								
11 "			61	60					6	Clear.	b.	
12 "			61	61								
1 P. M.			60	61					4			
2 "			60	61				S. WbyW				
3 "	Yerba Buena.		61	60		29·980	56° 48°					
4 "			60	60					5	Cir. cum	b. c.	
5 "			57	60								
6 "			57	60								
7 "			54	60				S. W.	4			
8 "			53	60						Cum. st.	c.	
9 "			53	60	56°	29·980						
10 "			59	60								
11 "			58	60						Stratus.		
12 "			57	60					2		f.	
Mean.			57·5	60·08	56·5	29·990						

U. S. SHIP VINCENNES.

SAN FRANCISCO, CALIFORNIA.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 17.												
1 A. M.			54°	60°				S. W.	2	Over-	f.	
2 "			54	60						cast.		
3 "			54	60	54°	29·980						
4 "			54	60								
5 "			59	62								
6 "			59	61					3			
7 "			59	61						Cir. stra.	c.	
8 "			58	61								
9 "			62	61	59°	30·000	56° 48°					
10 "			61	61				S. S. W.	4			
11 "			61	61								
12 "			61	61					5			
1 P. M.	Sausalito.		60	62				S.W.byS.		Clear.	b.	Got under way.
2 "			59	61								
3 "			59	60		30·020	56° 48°		6			
4 "			59	59								Anchored at Sausalito, in 4½ fms. water.
5 "			59	59				S. W.				
6 "			59	58					4			
7 "			59	57								
8 "			59	59							b. q.	
9 "			59	59		30·020	56° 48°		5			
10 "			57	59					4			
11 "			56	59								
12 "			55	59								
Mean.			58·16	60	56·5	30·005						
Aug. 18.												
1 A. M.			55°	59°				S. W.	4	Clear.	v.	
2 "			55	60							f.	
3 "			55	59	54°	30·020	60° 54°					
4 "			55	59					2			
5 "			56	58								
6 "			57	60				W. S. W.				
7 "			58	60								
8 "			57	60					3			
9 "			58	60	58°	30·000	61° 53°	W. N. W.		Cum.	b. c.	
10 "			59	60								
11 "			58	60					4			Preparing the boats for surveying duty.
12 "			62	62								
1 P. M.	Sausalito.		60	61				N. W.	6			
2 "			62	61								
3 "			63	61	61°	29·980	63° 52°					
4 "			63	61					5			
5 "			61	61						Cum. st.		
6 "			60	61								
7 "			57	59					3			
8 "			58	58				W. S. W.				
9 "			57	58		30·000	60° 52°					
10 "			56	58								
11 "			56	58								
12 "			57	58								
Mean.			58·12	59·66	57·66	30·000						

U. S. SHIP VINCENNES.

SAN FRANCISCO, CALIFORNIA.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 19.												
1 A. M.			56°	57°				S. W.	4	Stratus.	c.	
2 "			56	57								
3 "			56	57	55°	30·000	61° 53°					
4 "			56	58				West.				
5 "			56	59								
6 "			56	59				W. N. W.				
7 "			57	59								
8 "			58	59								
9 "			61	61	57°	30·000	60° 52°					
10 "			61	61					5			
11 "			62	61				West.		Cir. stra.	b. c.	
12 "			60	60								
1 P. M.			61	60								
2 "			62	60								
3 "	Sausalito.		62	60	60°	29·980	62° 52°					
4 "			61	60					4			
5 "			59	59						Clear.	b.	
6 "			59	59								
7 "			57	59								
8 "			56	59					3			
9 "			58	60		30·000	60° 52°					
10 "			58	59								
11 "			57	58						Cum.	b. c.	
12 "			55	58								
Mean.			58·33	59·12	57·33	29·995						
Aug. 20.												
1 A. M.			55°	58°				West.	2	Cum.	b. c.	
2 "			55	57								
3 "			55	58	54°	30·000	60° 50°					
4 "			55	57								
5 "			55	59								
6 "			56	59								
7 "			56	59				Var. from				
8 "			56	60				S. E. to	5		c. q.	
9 "			58	60	57°	30·000	60° 48°	W. by N.				
10 "			59	60								Preparing the Observatory on shore.
11 "			60	60								
12 "			60	60					6		b. c. q.	
1 P. M.			63	60								
2 "			64	60				S^{d}.				
3 "	Sausalito.		62	60	61°	29·980	60° 52°					
4 "			62	59								
5 "			61	59							b. c.	
6 "			61	62					4	Clear.	b.	
7 "			60	60				S. W.	3			
8 "			59	60								
9 "			57	59	56°	30·000	59° 53°	North.	2		b. w.	
10 "			56	59					3			
11 "			56	58				N. W.				
12 "			55	57								
Mean.			58·16	59·16	57	29·995						

U. S. SHIP VINCENNES.

SAN FRANCISCO, CALIFORNIA.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Aug. 21.												
1 A. M.			55°	61°				N. W.	2	Clear.	b. w.	
2 "			55	60								
3 "			54	59	56°	30·000						
4 "			56	58				W. N. W.				
5 "			56	58								
6 "			58	59				North.			b.	
7 "			59	59								
8 "			60	60				Var.	1			
9 "			60	61	68°	30·000	62° 48°					
10 "			63	60								
11 "	Sausalito.		65	60								
12 "			66	61								
1 P. M.			65	60								
2 "			68	61								
3 "			68	61	78°	30·000	64° 50°					
4 "			67	61								
5 "			67	61						Cir. stra.	b. c.	
6 "			64	61							c.	
7 "			63	60				S. W.	4	Over-cast.	o.	
8 "			60	60								
9 "			58	60	68°	29·960	62° 54°		5		o. m.	
10 "			58	60								
11 "			58	60								
12 "			58	60					4			
Mean.			60·87	60·04	67·5	29·990						
Aug. 22.												
1 A. M.			55°	61°				S. W.	4	Over-cast.	o.	
2 "			55	60					2			
3 "			54	59	54°	29·980	64° 50°			Cir. stra.	b. c.	
4 "			56	58				Calm.	0			
5 "			56	58								
6 "			58	59						Clear.	b.	
7 "			59	59								
8 "			60	60								
9 "			60	61	59°	29·980	64° 50°					
10 "			63	60				N. W.	3			
11 "			65	60								
12 "			66	61								
1 P. M.			65	65					4			
2 "	Sausalito.		65	65				N. N. W.				
3 "			68	65	56°	30·000	64° 49°		5	Cum.	b. c.	
4 "			68	65				NWbyW				
5 "			67	61					3			
6 "			67	61								
7 "			63	60				W. N. W.		Cir.cum		
8 "			60	54				West.	4			
9 "			58	56	59°	29·980	63° 52°	N. W.	3			
10 "			58	54						Nimbus	c. u.	
11 "			58	54								
12 "			58	54								
Mean.			60·92	59·58	57	29·985						

OBSERVATORY.

SAUSALITO, CALIFORNIA.

INSTRUMENTS USED ON SHORE.

Standard barometer.

Attached thermometer.

Thermometer, with bulb covered with lamp-black.

" " " black wool.

" " " white wool.

" " uncovered.

Hygrometer.

Temperature of water, and thermometer at mast-head, observed on board the U. S. Ship Vincennes.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Aug. 23.													
1 A. M.	30·010	58°	56°	58°	56°	57°	60°			N. W.	4	Nimbus.	c. q.
2 "	·010	59	59	60	58	59	59			S. S. W.			r.
3 "	·012	60	60	59	60	61	59	58°	64° 54°	West.	5		
4 "	·012	60	60	60	60	61	59			N. N. E.	3		
5 "	·060	60	61	61	61	61	61			North.		Cir. cum.	b. c.
6 "	·044	60	61	64	60	61	61			Var.	1		
7 "	·040	61	64	68	64	63	61						
8 "	·074	64	66	98	65	64	61						
9 "	·092	71	89	74	89	82	62	59°	64° 58°	Calm.	0		
10 "	·122	73	67	96	68	66	61					Clear.	b.
11 "	·118	73	85	86	86	78	61						
12 "	·120	73	81	86	82	77	61						
1 P. M.	·108	80	82	90	79	69	63						
2 "	·102	80	94	104	85	64	61			Var.	1		
3 "	·146	82	78	90	77	62	60	61°	68° 50°				
4 "	·076	78	79	81	78	60	60						
5 "	·076	78	79	81	77	59	60						
6 "	·064	77	67	71	69	58	60						
7 "	·072	70	63	65	64	57	64						
8 "	·072	68	60	62	61		60						
9 "	·080	64	60	58	58		60	59°	69° 50°	N. W.			
10 "	·080	62	58	58	56		60						
11 "	·080	60	57	56	56		60						
12 "	·064	59	57	56	56		60						
Mean.	30·072	67·92	68·45	72·58	67·71	64·16	60·58	59·25					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Aug. 24.													
1 A. M.	30·074	59°	57°	56°	56°	57°	61°			Calm.	0	Clear.	b.
2 "	·074	59	56	54	54	55	61						
3 "	·074	58	53	54	54	56	61	58°	72° 52°				
4 "	·064	58	56	54	54	56	61			N. W.	1		
5 "	·060	57	55	54	54	56	61						
6 "	·062	59	62	74	76	69	61				2		
7 "	·074	72	74	96	86	69	61						
8 "	·022	75	73	104	88	74	62						
9 "	·030	75	73	110	90	87	61	64°	75° 50°	N. N. W.			
10 "	·030	77	74	100	90	83	61			North.			
11 "	·030	81	83	97	88	83	61				1		
12 "	·014	81	83	97	89	83	61						
1 P. M.	·086	81	80	91	88	81	62						
2 "	·060	78	75	85	82	76	62			S. W.	3		
3 "	·060	74	73	76	75	74	62	78°	78° 48°		4		
4 "	·060	80	75	79	77	74	62			W. S. W.			
5 "	·050	81	72	75	74	75	60			West.			
6 "	·034	76	70	69	68	69	60						
7 "	·042	68	65	63	63	64	61				2		
8 "	·062	65	61	59	59	61	61					Cir. stra.	b. c.
9 "	·028	63	61	59	59	59	60	60°					c.
10 "	·028	60	58	57	57	58	60			Var.	1		
11 "	·026	58	56	56	56	57	60						
12 "	·050	58	55	55	55	55	60						
Mean.	30·049	68·87	66·66	73·92	70·5	67·96	60·96	65					
Aug. 25.													
1 A. M.	30·000	57°	54°	54°	54°	54°	60°			Calm.	0	Cir. stra.	c.
2 "	·000	55	52	50	52	53	61						
3 "	·000	54	50	52	50	51	61	56°	70° 52°				
4 "	·000	53	52	51	50	51	61						
5 "	29·926	52	51	50	50	51	61			Var.	1		
6 "	·948	58	66	66	68	62	61			Calm.	0		
7 "	30·012	66	74	88	76	67	61						
8 "	·054	75	81	98	82	72	61					Clear.	b.
9 "	·058	78	82	97	82	74	62	59°	70° 50°				
10 "	·066	77	86	107	87	77	62					Cirrus.	b. c.
11 "	·066	82	96	116	96	85	61			S. W.	1		
12 "	·011	81	91	112	91	84	61						
1 P. M.	·088	85	98	113	97	91	61						
2 "	·024	91	90	101	93	88	62			S. S. W.			
3 "	·000	84	81	92	82	82	60	78°	76° 54°	Calm.	0		
4 "	29·992	86	90	92	90	87	62						
5 "	·982	82	82	95	81	75	61			S. E.	1	Clear.	b.
6 "	·986	77	68	70	68	68	61						
7 "	30·022	69	62	63	62	62	61						
8 "	29·974	66	61	61	60	61	61						
9 "	·970	63	59	58	58	60	62	68°	72° 52°	Calm.	0		
10 "	·956	60	58	57	57	58	61						
11 "	·956	58	58	56	58	58	59						
12 "	·960	58	57	55	55	57	59						
Mean.	30·002	69·46	70·79	77·25	70·79	67·83	60·96	65·25					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Aug. 26.													
1 A. M.	29·950	56°	56°	54°	55°	56°	60°			Calm.	0	Clear.	b.
2 "	·942	56	57	55	56	57	60						
3 "	·940	56	56	55	55	56	60	56°	72° 53°				
4 "	·932	56	57	55	56	58	60						
5 "	·932	55	60	54	54	55	60			E^{d}.	1		
6 "	·930	58	72	69	72	67	60						
7 "	·940	68	76	87	78	70	61						
8 "	·952	73	83	99	86	84	61						
9 "	·954	74	88	105	88	80	63	63°	75° 58°	N. W.	2		
10 "	·980	78	94	113	95	88	64						
11 "	·990	80	92	111	92	86	63						
12 "	·978	88	95	106	97	90	64						
1 P. M.	·968	87	97	107	94	88	62			S. S. W.			
2 "	·950	85	94	104	94	89	61						
3 "	·940	88	98	108	102	93	61	75°	70° 54°				
4 "	·936	84	92	98	91	85	61						
5 "	·934	83	82	97	84	78	61				3		
6 "	·926	73	65	65	64	65	61						
7 "	·930	66	60	60	60	61	61			S. W.	2		
8 "	·928	64	60	59	58	60	61						
9 "	·928	61	60	58	59	60	60	59°	66° 52°				
10 "	·928	60	58	57	57	58	60						
11 "	·944	58	55	55	55	55	60				3		
12 "	·944	56	54	53	53	54	60				4		
Mean.	29·945	69·29	73·37	78·5	73·12	70·54	61·04	63·25					
Aug. 27.													
1 A. M.	29·950	54°	52°	52°	52°	52°	60°			S. W.	5	Clear.	b. m.
2 "	·950	54	52	52	52	52	60						
3 "	·928	53	52	51	52	51	60	55°	60° 58°		4		f.
4 "	·936	53	52	51	52	52	60						
5 "	·928	54	52	52	52	52	61				2		F.
6 "	·936	53	54	53	53	56	61						
7 "	·942	57	61	58	58	59	61			W. S. W.			
8 "	·948	64	66	66	64	64	61				3		f.
9 "	·958	63	66	68	64	64	61	56°	70° 64°				
10 "	·948	63	69	72	68	66	61				5		
11 "	·954	63	65	66	64	63	61			West.			b.
12 "	·950	64	69	70	68	66	61				6		
1 P. M.	·928	65	64	68	68	67	60						
2 "	·926	66	66	72	72	70	60						
3 "	·924	68	70	76	76	74	60	65°	67° 50°				
4 "	·934	75	70	75	69	67	60				4		
5 "	·910	64	60	58	58	58	60						
6 "	·892	60	57	56	56	56	59			S. W.			
7 "	·910	57	55	54	54	55	59						
8 "	·910	56	55	54	54	55	60						
9 "	·920	56	55	54	55	56	60	66°		Calm.	0		
10 "	·920	56	54	54	54	55	60			Var.	1		
11 "	·920	55	54	54	54	55	60						
12 "	·920	54	53	53	53	54	60			Calm.	0		
Mean.	29·931	59·46	59·29	59·96	59·25	59·12	60·25	60·5					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Aug. 28.													
1 A. M.	29·926	54°	54°	53°	54°	54°	59°			S¼.	1	Clear.	b.
2 "	·914	53	52	50	52	52	59						
3 "	·914	52	51	50	50	51	59	54°	65° 50°				
4 "	·914	52	52	50	51	52	61			Calm.	0		
5 "	·904	52	50	48	50	51	61						
6 "	·904	54	60	58	58	56	61			Var.			
7 "	·904	63	65	70	65	63	61						
8 "	·960	69	70	78	67	67	61						
9 "	·960	72	82	92	78	74	61	60°	67° 52°				
10 "	·978	72	80	87	78	76	61						
11 "	·978	73	78	82	75	74	61						
12 "	·964	71	77	76	75	74	61						
1 P. M.	·944	72	77	90	79	74	61			S. W.	3		
2 "	·924	72	73	74	71	70	62						
3 "	·916	70	72	73	70	69	62	65°	66° 44°		4		
4 "	·942	69	69	70	68	67	60						
5 "	·932	65	62	64	62	61	60						
6 "	·868	58	55	54	54	55	60			Var.	1		
7 "	·868	56	54	53	53	54	60						
8 "	·878	55	54	53	54	55	60						
9 "	·884	56	54	53	53	54	59	59°	65° 50°	Calm.	0		
10 "	·888	55	53	52	53	54	59						
11 "	·874	54	53	52	53	53	59						
12 "	·870	54	52	52	52	52	59						
Mean.	29·917	61·37	62·46	63·91	61·45	60·92	60·29	59·5					
Aug. 29.													
1 A. M.	29·876	53°	51°	51°	51°	52°	59°			Calm.	0	Clear.	b.
2 "	·864	52	51	50	50	51	59						
3 "	·862	51	50	52	52	50	59	58°	63° 48°	West.	1		
4 "	·866	50	50	50	49	50	59						
5 "	·850	51	50	48	49	50	59						
6 "	·886	51	53	51	51	52	59			S. W.	2		
7 "	·920	64	62	62	62	61	60						
8 "	·934	67	67	70	67	64	61						
9 "	·940	70	74	82	71	70	62	78°	65° 50°				
10 "	·932	71	76	81	74	73	63			S. S. W.			
11 "	·924	71	78	83	77	75	62						
12 "	·916	73	78	81	77	75	62						
1 P. M.	·912	73	75	76	75	73	62						
2 "	·900	72	75	76	75	73	62			S. E.	1		
3 "	·874	73	73	75	73	70	62	68°	70° 46°				
4 "	·864	73	73	73	71	70	62						
5 "	·852	72	72	72	70	69	61						
6 "	·864	69	62	63	62	63	61				2		
7 "	·864	62	58	57	57	58	61						
8 "	·870	60	56	54	54	56	60						
9 "	·870	67	54	53	54	55	59	60°			3		
10 "	·870	56	55	54	54	56	59						
11 "	·870	56	54	53	54	55	59				2		
12 "	·878	58	55	54	54	55	59						
Mean.	29·885	63·12	62·58	63·37	61·79	61·5	60·46	66					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Aug. 30.													
1 A. M.	29·876	53°	54°	51°	52°	53°				S. E.	2	Clear.	b.
2 "	·884	54	53	51	52	53							
3 "	·884	51	50	48	49	50		53°	63° 50°				
4 "	·884	50	48	50	50	51				S. S. E.			
5 "	·946	51	50	48	48	50				South.			
6 "	·950	54	64	62	61	60							
7 "	·952	64	70	80	73	64							
8 "	·966	68	78	90	84	72				S. S. W.	4		
9 "	·980	69	75	83	89	71		56°	65° 48°				
10 "	·990	71	73	77	75	69							
11 "	·984	72	78	81	80	74					6		
12 "	·968	72	74	75	75	72							
1 P. M.	·960	71	77	76	77	74				S. W.			
2 "	·940	77	78	78	79	74					5		
3 "	·932	77	77	76	77	74		55°	68° 48°				
4 "	·914	74	71	71	71	69				S. S. W.			
5 "	·920	68	61	65	60	61					4		
6 "	·900	61	58	58	58	58							
7 "	·900	57	54	54	54	54				South.	2		
8 "	·910	55	52	52	52	52						Cir. stra.	b. c.
9 "	·900	52	51	50	50	51		54°	63° 50°				
10 "	·900	51	50	49	49	50				Calm.	0		
11 "	·900	51	50	50	50	50							
12 "	·914	50	50	48	49	50							
Mean.	29·927	61·37	62·33	63·46	63·08	60·66		54·5					
Aug. 31.													
1 A. M.	29·914	51°	51°	50°	50°	51°	58°			Calm.	0	Cir. stra.	c.
2 "	·914	51	50	49	49	50	58			S. S. W.	1		
3 "	·914	51	50	50	50	51	59	53°	60° 50°		2		
4 "	·880	50	50	48	50	50	60						
5 "	·880	50	49	49	50	50	60						
6 "	·920	51	51	50	50	51	60			South.		Cirrus.	
7 "	·920	54	60	59	68	57	60						
8 "	·934	64	75	85	78	67	59						
9 "	·904	70	78	90	81	70	65	69°	65° 50°		3		
10 "	·950	69	81	97	81	74	63			S. S. W.			b. c.
11 "	·950	72	86	101	89	77	63					Cir. cum.	
12 "	·926	75	85	99	86	79	63						
1 P. M.	·928	80	82	82	85	80	62						
2 "	·908	76	75	75	77	73	63				4		
3 "	·886	70	69	69	72	67	63	62°	65° 48°				
4 "	·860	67	60	63	64	62	60			S. W.			
5 "	·850	64	59	59	61	60	60					Stratus.	c.
6 "	·848	61	59	59	59	59	60			S.W.byS.			
7 "	·848	58	56	56	57	56	60			S. S. W.		Overcast.	o.
8 "	·844	55	50	50	50	50	60						
9 "	·840	56	54	54	54	54	60	54°	60° 52°		2	Cir. stra.	b. c.
10 "	·850	55	54	54	54	54	59						
11 "	·850	54	52	52	52	52	58						
12 "	·828	54	51	51	51	51	58				4		
Mean.	29·889	60·75	61·96	64·62	63·25	60·21	60·46	59·5					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Sept. 1.													
1 A. M.	29·828	54°	52°	52°	52°	52°	59°			S. S. W.	4	Nimbus.	c. m.
2 "	·828	54	52	52	52	52	59						
3 "	·832	53	52	51	52	52	59	53°	56° 47°		6		f. q.
4 "	·832	53	51	50	52	52	59						
5 "	·832	53	52	49	51	50	59						F. q.
6 "	·844	53	52	52	52	53	59				7		
7 "	·874	53	54	53	54	54	59			S. W.			
8 "	·914	56	56	56	56	57	59				6		
9 "	·910	61	64	68	66	66	59	55°	56° 48°				
10 "	·904	64	71	69	68	67	60						
11 "	·890	64	71	71	70	68	59						c.
12 "	·908	64	71	70	70	69	60						
1 P. M.	·888	63	68	68	68	66	60						f.
2 "	·856	63	66	66	66	65	60			S. S. W.			
3 "	·844	61	61	61	61	60	59	56°	56° 44°	S. W.	5		
4 "	·834	59	56	57	56	56	59			S.W.byS.			
5 "	·834	55	53	52	52	53	59						b. c.
6 "	·830	52	53	52	52	53	59				4		
7 "	·828	52	53	52	52	53	57						f.
8 "	·862	52	53	53	53	53	58						
9 "	·870	52	52	52	52	53	59	55°					
10 "	·870	52	52	52	52	52	59				5		
11 "	·870	52	52	52	52	52	59						
12 "	·828	52	52	52	52	52	59			W. S. W.	3		
Mean.	29·859	56·12	57·04	56·75	56·79	56·66	59·04	54·75					
Sept. 2.													
1 A. M.	29·878	54°	52°	52°	52°	53°				W. S. W.	3	Overcast.	f.
2 "	·880	54	51	51	51	52							
3 "	·884	54	51	51	51	52		52°					
4 "	·880	55	53	52	52	53					4		
5 "	·888	54	52	52	53	52				West.			
6 "	·888	54	53	52	52	53							
7 "	·884	54	54	54	54	54					5		
8 "	·890	56	56	55	55	56				S. W.			
9 "	·920	58	60	59	59	59		53°	58° 48°				
10 "	·938	61	62	64	63	62							
11 "	·934	63	65	64	63	63							
12 "	·924	65	70	70	68	67							
1 P. M.	·922	64	66	66	66	64							
2 "	·960	62	63	64	63	62							
3 "	·870	61	62	62	62	61		58°	59° 47°	W. S. W.	4		
4 "	·866	57	55	55	54	55							
5 "	·854	54	52	52	52	52							F.
6 "	·840	53	52	51	51	52					3		
7 "	·836	53	53	52	52	53				S. W.			
8 "	·850	52	52	52	52	52					2		
9 "	·878	52	52	52	52	52		53°			3		
10 "	·850	52	52	52	52	52							f.
11 "	·842	52	52	52	52	52							
12 "	·846	52	52	52	52	52							
Mean.	29·883	56·08	55·91	55·75	55·54	55·62		54					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Sept. 3.													
1 A. M.	29·836	52°	52°	52°	52°	52°				S. W.	3	Overcast.	f.
2 "	·836	52	52	52	52	52							
3 "	·836	51	51	51	51	51		53°					
4 "	·836	51	51	51	51	51					1		
5 "	·850	51	51	51	51	52				Calm.	0		o.
6 "	·850	52	52	51	51	52							
7 "	·864	53	53	52	52	53							
8 "	·876	55	56	55	55	55						Clear.	b.
9 "	·900	59	61	63	60	60		58°	58° 48°	S. W.	2		
10 "	·928	62	66	67	64	64							
11 "	·910	63	67	67	65	64							
12 "	·906	63	66	66	65	65					4		
1 P. M.	·888	63	66	65	65	65				W. S. W.			
2 "	·872	64	64	67	67	67							
3 "	·860	64	64	64	63	62		55°	62° 50°	S. W.			
4 "	·848	61	59	60	58	59							
5 "	·830	58	55	55	55	55						Cir. stra.	b. c.
6 "	·812	55	52	52	52	52					2		
7 "	·800	52	50	49	50	51				S. S. W.			
8 "	·828	52	50	49	50	51							
9 "	·826	54	51	51	51	52		55°	66° 58°				
10 "	·836	53	51	49	51	52					4		
11 "	·826	52	51	50	51	52							
12 "	·828	52	52	52	52	52					2		
Mean.	29·853	56	55·96	55·87	55·58	55·87		55·25					
Sept. 4.													
1 A. M.	29·832	52°	52°	51°	52°	53°				S. S. W.	2	Cir. stra.	b. c.
2 "	·832	52	51	51	52	52				Calm.	0		F.
3 "	·836	52	51	51	51	51		51°	64° 50°				
4 "	·834	52	51	51	51	51							
5 "	·844	51	49	49	49	49							f.
6 "	·850	51	51	49	49	50							b. c.
7 "	·874	54	60	60	59	59				Var.	1	Cirrus.	
8 "	·900	62	72	80	68	67							
9 "	·932	67	74	77	70	70		57°	65° 51°				
10 "	·936	71	80	82	76	75							
11 "	·938	73	78	81	76	75							
12 "	·930	73	77	78	75	75							
1 P. M.	·936	72	74	77	73	72							
2 "	·926	71	73	72	71	70						Cir. cum.	
3 "	·900	69	68	70	68	67		66°	70° 50°				
4 "	·900	66	62	66	63	64				N. W.	2		
5 "	·898	64	58	60	58	59						Cirrus.	
6 "	·884	62	61	61	61	62							b. c. w.
7 "	·950	58	55	54	54	56							
8 "	·950	54	54	52	54	54				Var.	1		
9 "	·950	54	54	52	53	54		54°	65° 52°				
10 "	·950	54	52	50	51	52				Calm.	0		
11 "	·886	54	52	49	50	51							
12 "	·886	51	50	48	49	51							
Mean.	29·898	59·96	60·79	61·29	59·71	59·95		57					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Sept. 5.													
1 A. M.	29·880	50°	50°	47°	48°	50°				N. W.	2	Cir. stra.	b. c. w.
2 "	·880	50	50	48	49	50							
3 "	·888	49	50	49	50	50		52°	64° 52°			Clear.	b. w.
4 "	·878	48	49	48	49	49				W. N. W.			
5 "	·900	50	55	51	53	54					3		b.
6 "	·940	61	74	75	69	69					2		
7 "													
8 "	29·980	70	88	90	93	71				S. W.	5	Overcast.	F.
9 "	30·000	73	89	96	106	77		57°	58° 48°				
10 "	·000	78	92	102	109	81							
11 "	·002	84	101	114	116	90							
12 "	·006	86	102	115	118	92					6		
1 P. M.	·006	88	83	84	93	82				S. W. by S.			
2 "	29·986	79	78	78	83	76				S. S. W.			
3 "	·980	74	75	73	77	73		57°	60° 52°				
4 "	·966	76	66	67	67	69					5		
5 "	·964	66	63	63	63	63				S. W.			
6 "	·956	62	60	60	61	60							
7 "	·984	60	57	57	57	57					4		
8 "	·984	58	56	56	57	57							
9 "	30·000	57	55	56	55	55		54°		S. S. W.	5		
10 "	·000	56	54	56	54	55				S. W.	3		
11 "	·000	56	55	56	56	55							
12 "	·000	51	54	53	54	53					2		
Mean.	29·961	64·43	67·65	69·3	71·17	64·69		55					
Sept. 6.													
1 A. M.	29·990	49°	50°	50°	50°	50°				S. W.	2	Overcast.	F.
2 "	·990	48	48	47	49	49							
3 "	·988	49	52	50	50	52		53°			4		
4 "	·988	50	52	50	50	52							
5 "	·988	50	51	50	50	52							
6 "	·988	52	54	53	54	55				S. S. W.			
7 "	30·000	55	60	59	60	58					6		
8 "	·066	64	78	80	78	69							
9 "	·080	71	80	89	84	72		55°	56° 52°				
10 "	·000	70	80	90	97	78						Cir. stra.	c.
11 "	·092	74	79	77	89	76							
12 "	·080	73	76	74	84	74							
1 P. M.	·066	71	73	71	79	71					4		
2 "	·050	67	69	67	73	68				S. W.			
3 "	·014	64	64	62	65	62		56°	56° 50°				
4 "	·008	63	58	59	60	59							
5 "	29·976	57	55	54	55	54					3		
6 "	·976	55	55	54	54	54						Clear.	b. q.
7 "	30·000	54	53	53	53	53				W. S. W.			
8 "	·018	53	52	52	52	52					5		
9 "	·018	53	51	51	51	51		54°					
10 "	·018	53	51	51	51	51							
11 "	·000	51	52	50	51	50				S. W.			
12 "	·000	51	50	50	50	51							f.
Mean.	30·016	58·2	60·12	60·12	62·04	58·87		54·5					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Sept. 7.													
1 A. M.	29·836	52°	52°	52°	52°	52°				S. S. W.	5	Overcast.	f.
2 "	·836	52	52	52	52	52							
3 "	·836	51	51	51	51	51		57°					
4 "	·826	51	51	51	51	51					3		
5 "	·850	51	51	51	51	52							o.
6 "	·850	52	52	51	51	52							
7 "	·864	53	53	52	52	53							
8 "	·876	55	56	55	55	55				S. W.		Clear.	b.
9 "	·900	59	61	63	60	60		57°	59° 50°		4		
10 "	·928	62	66	67	64	64							
11 "	·910	63	67	67	65	64							
12 "	·906	63	66	66	65	65							
1 P. M.	·988	63	66	66	65	65							
2 "	·872	64	64	67	67	67							b. m.
3 "	·860	64	64	64	63	62		57°	59° 50°				
4 "	·848	61	59	60	58	59					5		
5 "	·830	58	55	55	55	55							
6 "	·812	55	52	52	52	52							
7 "	·800	52	50	49	50	51							
8 "	·828	52	50	49	50	51					4		
9 "	·826	54	51	51	51	52		53°					
10 "	·836	53	51	49	51	52							
11 "	·826	52	51	50	51	52							
12 "	·828	52	52	52	52	52					2		
Mean.	29·857	56	55·95	55·92	55·58	55·87		56					
Sept. 8.													
1 A. M.	29·832	52°	52°	51°	52°	53°				S. W.	2	Clear.	b. m.
2 "	·832	52	51	51	52	52							
3 "	·836	52	51	51	51	51		53°	60° 50°				
4 "	·834	52	51	51	51	51							
5 "	·844	51	49	49	49	49				Calm.	0		
6 "	·850	51	51	49	49	50							
7 "	·874	54	60	60	59	59							
8 "	·900	62	72	80	68	67							b.
9 "	·932	67	74	77	70	70			64° 52°				
10 "	·936	71	80	82	76	75				S. W.	2		
11 "	·938	73	78	81	76	75					1		
12 "	·930	73	77	78	75	75					2		
1 P. M.	·936	72	74	77	73	72						Cirrus.	b. c.
2 "	·926	71	73	72	71	70							
3 "	·900	69	68	70	68	67		65°	64° 52°	S. S. W.			
4 "	·900	66	62	66	63	64					4		
5 "	·898	64	58	60	58	59							
6 "	·884	62	61	61	61	62							b. w.
7 "	·950	58	55	54	54	56							
8 "	·950	54	54	52	54	54							
9 "	·950	54	54	52	53	54		56°	63° 54°				
10 "	·950	54	52	50	51	52				Calm.	0		
11 "	·886	54	52	49	50	51							
12 "	·886	51	50	48	49	51							
Mean.	29·898	59·95	60·79	61·29	59·71	59·96		58					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Sept. 9.													
1 A. M.	29·880	50°	50°	47°	48°	50°				S. E.	1	Clear.	b. w.
2 "	·880	50	50	48	49	50				Calm.	0		
3 "	·888	50	49	49	49	49		54°	64° 53°				
4 "	·888	49	50	49	50	50				S. E.	1		
5 "	·878	48	49	48	49	49							
6 "	·900	50	55	51	53	54				Calm.	0		b.
7 "	·940	61	74	75	69	69							
8 "	·988	70	88	90	93	71							
9 "	30·000	73	87	96	106	79		66°	64° 52°				
10 "	·000	78	92	102	109	81							
11 "	·002	84	101	114	116	90							
12 "	·006	86	102	115	118	92				S. W.	2		
1 P. M.	·006	88	83	84	93	82							
2 "	29·986	79	78	78	83	76					4		
3 "	·980	74	75	73	77	73		75°	69° 50°				
4 "	·966	76	66	67	67	67					5		
5 "	·964	66	63	63	63	63				S. S. W.		Cir. cum.	b. c.
6 "	·956	62	60	60	61	60					4		
7 "	·984	60	57	57	57	57							
8 "	·984	58	56	56	57	57						Cirrus.	
9 "	30·000	57	55	56	55	55		56°	68° 54°	S. W.			Mist
10 "	·000	56	54	56	54	55				W. S. W.	2		on the
11 "	·000	56	55	56	56	55							hills.
12 "	·000	51	54	53	54	55					1		
Mean.	29·961	63·83	66·7	68·46	70·25	64·12		62·75					
Sept. 10.													
1 A. M.	29·990	49°	50°	50°	50°	50°				Calm.	0	Cirrus.	b. c.
2 "	·990	48	58	47	49	49							Mist
3 "	·988	49	52	50	50	52		52°					on the
4 "	·988	50	52	50	50	52							hills.
5 "	·988	50	51	50	50	52							
6 "	·988	52	54	53	54	55				W^{d}.	1		b.
7 "	30·000	55	60	59	60	58							
8 "	·016	64	78	80	78	69							
9 "	·080	70	80	89	84	72		69°	70° 56°				
10 "	·000	70	80	90	98	78					2		
11 "	·092	74	79	77	89	74							
12 "	·080	73	76	74	84	74					3		
1 P. M.	·066	71	73	71	79	71							
2 "	·050	67	69	67	73	68					2		
3 "	·014	64	64	62	65	62		69°	69° 54°				
4 "	·008	63	58	59	66	59							
5 "	29·976	57	55	54	55	54				Calm.	0		
6 "	·976	55	53	54	54	54							
7 "	30·000	54	53	53	53	53							
8 "	·018	53	52	52	52	52				W^{d}.	1		
9 "	·018	53	51	51	51	51		54°	60° 52°				
10 "	·018	53	51	51	51	51							
11 "	·000	51	52	50	51	50				Calm.	0		
12 "	·000	51	50	50	50	51							
Mean.	30·014	58·17	60·46	60·12	62·33	58·79		61					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Sept. 11.													
1 A. M.	30·000	50°	50°	49°	49°	49°	59°			Calm.	0	Clear.	b.
2 "	29·998	49	49	44	46	47	59						
3 "	·986	48	49	45	46	47	58	57°	58° 50°				
4 "	·974	48	50	46	47	48	58			Var.	1		
5 "	·996	48	50	41	47	49	60						
6 "	30·000	48	50	46	47	49	60			Calm.	0		
7 "	·010	54	61	58	64	58	60						
8 "	·028	61	66	72	80	64	60						
9 "	·096	67	77	86	94	74	60	56°	70° 60°	S. W.	2		b. m.
10 "	·086	67	81	90	95	73	60						
11 "	·074	72	73	72	73	71	60						
12 "	·058	67	69	66	67	66	61						
1 P. M.	·040	65	66	66	65	65	61						
2 "	·040	65	65	68	65	64	61						
3 "	·020	65	66	66	65	65	61	68°	70° 59°				
4 "	·000	64	61	64	62	62	61						
5 "	29·998	60	56	56	56	57	61						f.
6 "	·989	59	56	56	57	57	59						
7 "	·980	57	56	54	55	56	59			Calm.	0		F.
8 "	30·000	56	54	53	54	54	59						
9 "	29·990	54	52	52	52	52	59	58°	65° 54°				
10 "	·990	52	50	50	50	51	59						
11 "	30·000	52	50	50	50	50	59						
12 "	·000	50	49	49	49	49	59						
Mean.	30·015	57·41	58·58	58·29	59·79	57·39	59·71	59·75					
Sept. 12.													
1 A. M.	30·000	50°	48°	48°	48°	48°	59°			Calm.	0		F.
2 "	29·998	49	48	48	48	48	59			S. W.	2		
3 "	·988	48	48	46	47	48	58	53°	60° 52°				f.
4 "	·988	48	48	46	47	48	58						
5 "	·988	48	48	46	47	48	58					Clear.	b. m.
6 "	·988	49	50	48	48	49	58						
7 "	30·012	51	58	56	57	56	59			Var.	1		
8 "	·020	54	61	59	60	59	60						
9 "	·032	60	70	64	69	66	61	58°					
10 "	·072	64	72	66	71	68	59			S. W.	3		
11 "	·074	67	73	71	73	70	61						
12 "	·074	68	71	69	80	69	61						b.
1 P. M.	·074	69	73	69	79	69	62						
2 "	·044	65	65	64	71	64	60				5		
3 "	·010	64	66	64	69	64	60	69°					
4 "	29·994	62	59	58	61	59	60						
5 "	·984	59	54	54	55	56	61			West.			
6 "	·982	54	52	52	53	52	60			N. W.			
7 "	·980	53	52	52	52	52	59				3		b. m.
8 "	30·000	52	52	51	52	52	59						
9 "	29·990	51	51	50	51	51	58	59°			2		
10 "	·990	51	49	48	49	50	58			W. N. W.			
11 "	·990	50	49	48	49	49	58			West.			
12 "	·990	50	49	48	49	49	58						
Mean.	30·011	55·66	56·91	55·21	57·71	56	59.33	59·75					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Sept. 13.													
1 A. M.	29·968	49°	49°	48°	49°	49°	57°			West.	2		f.
2 "	·968	49	49	47	49	48	57						
3 "	·968	49	48	48	48	48	57	50°					
4 "	·968	49	50	48	48	48	57			S. W.			F.
5 "	·976	50	50	48	49	50	58						
6 "	30·000	51	50	49	50	51	59						
7 "	·000	52	52	50	51	51	59			S. S. W.	3		f.
8 "	·000	53	53	52	52	53	59						
9 "	·020	56	60	54	62	59	59	54°					
10 "	·018	62	68	65	74	65	60				4		
11 "	·020	64	70	67	78	67	60						
12 "	·024	64	68	70	74	65	60						
1 P. M.	29·998	60	61	59	62	60	60			S. W.			
2 "	·978	60	59	60	62	58	59						
3 "	·960	60	60	60	63	59	59	57°		West.			F.
4 "	·954	60	57	57	60	57	57						
5 "	·950	57	54	54	55	54	59						
6 "	·938	55	53	52	53	53	59						
7 "	·950	57	52	51	52	52	59				3		
8 "	·960	52	52	49	50	52	59						
9 "	·950	52	52	49	50	51	59	53°				Overcast.	o. m.
10 "	·950	52	52	49	50	50	58				2		
11 "	·948	52	50	48	47	50	58						f.
12 "	·934	52	50	49	49	50	58						
Mean.	29·975	54·87	54·96	53·46	55·71	54·16	58·58	53·5					
Sept. 14.													
1 A. M.	29·950	52°	51°	50°	50°	51°	58°			West.	3	Overcast.	F.
2 "	·950	52	51	50	50	51	58			W. S. W.			
3 "	·962	51	51	50	50	51	58	51°					
4 "	·962	51	51	50	50	51	58				2		
5 "	·962	52	51	50	50	52	59						
6 "	·962	53	52	50	51	52	60						f.
7 "	·978	52	52	50	52	52	60				4		
8 "	30·000	54	57	56	57	57	60						
9 "	·006	58	59	63	64	61	60	54°					
10 "	·010	62	62	72	72	65	60			W. S. W.			
11 "	·020	63	68	71	74	66	60						
12 "	·008	64	68	68	72	66	60						
1 P. M.	·000	68	68	66	71	66	60				3		
2 "	29·976	63	66	64	69	64	60						
3 "	·970	63	64	64	68	63	59	59°		S. W.			
4 "	·960	60	64	56	58	57	59				5		
5 "	·988	56	58	53	54	54	59						
6 "	·998	54	54	52	53	52	59			S. S. W.			
7 "	·948	52	53	50	51	52	59			S. W.			F.
8 "	·950	53	52	50	51	52	59						
9 "	·968	52	52	50	50	50	58	52°			4		
10 "	·968	51	51	49	50	51	58						
11 "	·968	51	50	49	50	51	58				2		
12 "	·968	51	49	49	50	50	58						
Mean.	29·976	55·75	56·41	55·5	56·96	55·71	59·04	54					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Sept. 15.													
1 A. M.	29·968	51°	49°	49°	49°	49°	58°			S. W.	2		F.
2 "	·968	50	49	48	48	49	58						
3 "	·960	50	50	49	50	50	58	53°					
4 "	·960	50	50	49	49	50	58						
5 "	·966	50	50	49	49	50	59						f.
6 "	·966	50	51	49	50	51	59				3		
7 "	·962	52	52	50	52	52	59						
8 "	·968	53	54	52	53	55	59						
9 "	·978	54	56	56	56	55	59	53°					
10 "	·984	55	57	56	57	56	59				5		F.
11 "	·984	61	67	68	70	65	60						
12 "	·980	63	68	68	72	66	60						
1 P. M.	·978	63	66	66	70	64	60						
2 "	·958	62	64	63	68	63	59			W. S. W.			
3 "	·926	62	61	61	64	61	59	57°		S. W.			
4 "	·926	60	57	57	59	57	59				6		
5 "	·906	56	54	54	55	54	59						
6 "	·900	54	52	51	52	52	59						
7 "	·806	53	52	51	51	52	59			S. S. W.	4		
8 "	·930	52	52	51	51	52	59						
9 "	·928	52	51	50	52	52	58	53°			2		
10 "	·920	52	51	50	51	51	58			S. W.			
11 "	·900	52	51	50	51	51	58			W. S. W.			
12 "	·900	51	51	49	50	50	58				3		
Mean.	29·947	54·5	54·79	54	55·37	54·46	58·79	54					
Sept. 16.													
1 A. M.	29·892	50°	49°	50°	50°	50°	59°			W. S. W.	3		F.
2 "	·886	50	49	50	49	50	59						
3 "	·884	49	48	49	48	49	58	50°					f.
4 "	·874	49	48	49	48	49	58			Var.	1		
5 "	·900	50	49	50	49	50	58						
6 "	·900	51	50	51	50	51	58						
7 "	·900	52	50	52	52	52	58						
8 "	·924	54	52	54	53	53	58			S. W.	2		F.
9 "	·934	56	56	56	57	55	58	52°					
10 "	·926	59	59	59	59	58	59						
11 "	·928	61	64	61	64	60	59						
12 "	·930	70	73	70	77	67	59				3		
1 P. M.	·916	66	67	66	72	64	59			W. S. W.			
2 "	·894	63	63	63	67	62	59			S. W.			F. q.
3 "	·882	61	62	61	65	61	59	58°			5		
4 "	·864	55	56	55	58	55	59						
5 "	·850	55	54	55	56	55	59						
6 "	·836	53	52	53	52	53	59						F.
7 "	·838	52	51	52	52	52	58						
8 "	·868	51	50	51	51	51	58				4		f.
9 "	·876	51	50	51	51	51	58	52°					
10 "	·870	50	50	50	50	50	58						
11 "	·876	50	49	50	50	50	58				6		
12 "	·876	49	48	49	49	49	58				7		
Mean.	29·887	54·45	54·12	54·46	55·36	54·04	58·46	53					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Sept. 17.													
1 A. M.	29·882	50°	49°	48°	49°	49°	58°			S. W.	7		f.
2 "	·886	50	49	48	49	49	58						
3 "	·894	50	49	49	48	48	58	52°			6		
4 "	·896	50	50	50	51	50	58						
5 "	·842	51	51	51	52	51	58						
6 "	·868	52	53	52	53	53	58						F.
7 "	·856	52	54	52	53	54	58						
8 "	·872	54	56	54	56	56	59			S. S. W.	5		
9 "	·890	57	66	63	66	63	59	54°		S. W.			f.
10 "	·904	61	65	65	69	63	59			S.W.byS.			
11 "	·910	63	68	67	72	66	59						
12 "	·910	64	69	68	72	68	59						
1 P. M.	·892	64	67	66	72	66	59				7		
2 "	·874	64	67	64	69	66	59						
3 "	·868	62	62	61	64	62	59	58°		S. W.		Stratus.	c. m.
4 "	·854	59	57	57	57	57	59						
5 "	·864	56	55	54	56	56	59						
6 "	·864	54	54	52	54	54	59			S. S. W.	5		c.
7 "	·880	54	53	50	51	53	59						
8 "	·898	53	52	50	52	52	59						
9 "	·900	52	51	50	51	51	59	52°		S. W.	4		c. m.
10 "	·890	51	51	50	51	50	59						
11 "	·900	50	50	48	49	50	59						
12 "	·900	50	49	48	48	49	59						
Mean.	29·883	55·12	56·12	54·87	56·93	55·66	58·71	54					
Sept. 18.													
1 A. M.	29·978	50°	49°	48°	48°	48°	59°			S. W.	3	Stratus.	c. m.
2 "	·920	49	48	48	48	48	59				2		F.
3 "	·920	49	48	48	48	48	59	52°					
4 "	·920	48	49	48	48	49	58						
5 "	·920	48	47	47	48	49	58			Var.	1		f.
6 "	·940	48	48	50	48	48	58						
7 "	·960	51	54	52	54	53	58						
8 "	·976	54	60	60	58	57	59						
9 "	30·020	58	70	72	69	66	59	57°		S. W.	2	Clear.	b.
10 "	·028	64	76	76	75	70	59						
11 "	·040	65	70	70	76	79	59						
12 "	·034	69	73	85	82	74	59						
1 P. M.	·030	73	77	84	83	75	59				3		
2 "	·020	73	79	81	81	76	59						b. m.
3 "	·020	73	78	82	82	76	59	57°			4		
4 "	·010	69	64	69	69	65	59						
5 "	·000	62	58	58	60	58	59				2		
6 "	·000	58	57	56	58	57	59				1		
7 "	·000	56	55	54	56	55	59						
8 "	·000	55	54	53	55	54	59			Calm.	0		
9 "	·022	55	53	49	52	54	59	56°					
10 "	·036	53	50	48	52	52	59						
11 "	·020	53	50	49	52	52	58						
12 "	·038	52	49	48	51	51	58						
Mean.	29·994	57·7	59	59·79	60·54	58·91	58·75	55·5					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Sept. 19.													
1 A. M.	30·038	51°	49°	48°	51°	51°	59°			Calm.	0	Clear.	b. m.
2 "	·038	51	49	48	50	50	59						
3 "	·038	51	51	48	49	51	59	52°					
4 "	·038	51	52	49	50	52	59						
5 "	·032	51	54	51	52	52	59						
6 "	·044	52	56	55	56	56	59						
7 "	·048	57	68	67	68	63	59						
8 "	·066	64	80	90	94	72	59			S. E.	1		
9 "	·118	68	78	90	94	72	59	58°					
10 "	·118	73	83	97	97	81	59			S. S. W.	2		
11 "	·132	76	83	92	91	81	59						
12 "	·116	76	83	88	88	81	60					Cir. stra.	b. c. m.
1 P. M.	·116	79	85	92	91	84	61				4		
2 "	·114	79	84	87	88	83	61						
3 "	·086	77	77	81	82	85	61	69°			5		
4 "	·080	74	70	72	74	70	60						
5 "	·066	71	68	69	70	69	60			South.	4		
6 "	·066	64	59	61	63	59	60						
7 "	·060	59	56	56	57	56	60					Clear.	b. m.
8 "	·058	56	55	55	56	55	60						
9 "	·060	56	53	53	54	52	59	56°		Calm.	0		
10 "	·070	55	52	52	52	52	59						
11 "	·060	53	50	50	50	50	59						
12 "	·050	53	50	50	50	50	59						
Mean.	30·071	62·37	64·37	66·71	67·79	63·62	59·5	58·75					
Sept. 20.													
1 A. M.	30·040	53°	49°	49°	49°	48°	59°			Calm.	0	Clear.	b. u.
2 "	·036	52	48	48	47	47	59						
3 "	·030	52	48	48	48	47	59	52°					
4 "	·020	51	48	49	49	47	59						f.
5 "	·000	51	49	50	50	48	59						
6 "	·066	53	53	52	53	53	59						
7 "	·066	54	54	53	54	54	59						b. m.
8 "	·078	56	61	62	63	58	59						
9 "	·102	60	75	76	78	67	59	55°					
10 "	·116	67	83	93	93	73	60						
11 "	·108	68	84	94	95	78	61						
12 "	·108	70	74	80	80	72	61			N. W.	1		
1 P. M.	·108	70	74	76	75	72	61			W. N. W.	2		b. m.
2 "	·170	69	70	72	72	68	60						
3 "	·064	67	68	70	71	67	60	62°					
4 "	·044	66	62	64	64	63	60						
5 "	·044	62	60	60	60	61	60			Calm.	0		
6 "	·044	58	57	56	56	58	60						r. f.
7 "	·060	58	56	56	56	57	60						
8 "	·070	57	55	55	55	56	59						
9 "	·070	56	54	54	54	55	59	56°					b. m.
10 "	·088	55	55	54	54	56	59						
11 "	·080	53	52	52	52	53	59						
12 "							59						
Mean.	30·070	59·04	60·39	61·82	62·08	59·04	59·54	56·25					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Sept. 21.													
1 A. M.	30·068	52°	50°	50°	50°	50°	59°			Calm.	0	Clear.	b. m.
2 "	·000	51	50	49	48	50	59						
3 "	·000	50	50	48	47	50	59	59°					
4 "	·020	50	49	47	48	48	59						
5 "	·036	50	49	48	50	49	59						
6 "	·074	59	58	48	58	55	59						
7 "	·100	58	69	74	79	64	59						
8 "	·142	66	78	84	92	68	59						
9 "	·160	71	81	90	100	72	59	59°		S. W.	2		
10 "	·162	77	86	97	102	78	61						
11 "	·162	78	87	100	103	80	61						Mist
12 "	·168	79	94	106	106	86	61						on the
1 P. M.	·168	82	94	106	105	86	61						hills.
2 "	·158	83	86	96	98	86	62			Calm.	0		
3 "	·120	82	84	86	87	82	61	67°					
4 "	·130	80	77	80	81	76	61			Var.	1		
5 "	·104	80	76	76	78	76	61						
6 "	·088	71	64	·66	63	65	61			N. E.			b. m.
7 "	·088	66	61	61	62	62	60			Calm.	0		
8 "	29·988	64	60	59	60	61	60						
9 "	30·100	63	58	58	60	59	60	59°					
10 "	·098	61	58	58	58	58	60			S. W.	1		
11 "	·086	60	58	58	58	59	60			Calm.	0		
12 "	·070	60	58	58	58	59	60						
Mean.	30·095	66·37	68·12	70·95	72·95	65·79	60	61					
Sept. 22.													
1 A. M.	30·062	60°	57°	58°	57°	58°	59°			Calm.	0	Clear.	b. m.
2 "	·050	59	57	58	57	58	59						
3 "	·050	58	57	57	57	57	59	56°					
4 "							59						
5 "	·060	58	58	57	57	58	59						
6 "	·082	59	60	58	59	60	60						
7 "	·090	68	82	88	92	75	60						
8 "	·126	74	85	96	103	76	60			E^{d}.	2		
9 "	·136	77	90	100	110	80	61	67°					
10 "	·130	79	90	106	112	82	62						
11 "	·112	75	102	114	116	93	62			Calm.	0		
12 "	·112	88	102	110	110	100	64						
1 P. M.	·150	90	95	100	100	94	61			N. W.	3		
2 "	·066	85	94	98	98	93	61						
3 "	·050	88	90	94	95	89	61	82°					
4 "	·030	85	80	91	92	80	61						
5 "	·018	82	80	89	81	74	62						
6 "	29·990	74	72	71	72	72	62				2		
7 "	·984	68	66	66	65	66	61						
8 "	·976	64	62	62	62	63	61						
9 "	·970	62	60	62	61	62	61	60°		Calm.	0		
10 "	·950	60	60	59	60	62	60						
11 "	·928	59	58	58	58	58	60						
12 "	·940	59	58	58	58	59	60						
Mean.	30·046	70·91	74·56	78·69	79·65	72·56	60·62	66·25					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Sept. 23.													
1 A. M.	29·952	58°	58°	56°	57°	58°	60°			Calm.	0	Clear.	b. m.
2 "	·936	57	58	56	57	58	60						
3 "	·928	56	58	55	56	58	60	58°	62° 50°				
4 "	·920	56	58	55	56	58	60						
5 "	·920	56	57	54	55	57	60						
6 "	·916	55	58	54	56	58	61						b.
7 "	·930	62	78	81	83	72	61						
8 "	·972	70	84	90	96	76	61						
9 "	·986	78	94	109	115	84	62	67°	84° 60°				
10 "	·986	75	93	109	114	84	62			S^{d}.	1		
11 "	·980	78	99	114	116	91	62						
12 "	·980	81	91	106	107	84	62			Calm.	0		
1 P. M.	·960	85	105	118	117	97	62						
2 "	·950	91	97	106	106	96	62						
3 "	·928	90	90	104	104	85	62	80°	65° 58°				
4 "	·900	85	86	99	98	83	62						
5 "	·886	79	73	77	78	73	62						
6 "	·878	72	68	68	70	69	61			S. W.	1		
7 "	·870	69	62	62	64	63	62			Calm.	0		
8 "	·870	64	61	61	62	62	61						
9 "	·880	62	60	60	60	60	60	59°	60° 50°				
10 "	·880	61	59	59	58	59	60						
11 "	·884	58	58	56	58	58	60						
12 "	·872	59	58	56	57	58	60						
Mean.	29·923	69·04	73·41	77	79·61	70·87	61·04	66					
Sept. 24.													
1 A. M.	29·860	59°	57°	56°	56°	57°	61°			Calm.	0	Clear.	b.
2 "	·850	58	57	55	56	57	61						
3 "	·852	57	57	55	56	57	61	56°	62° 52°				
4 "	·862	56	56	56	56	56	61						
5 "	·860	54	54	54	54	54	61						
6 "	·860	54	78	80	83	71	61						
7 "	·998	70	81	92	97	74	61						
8 "	·908	71	89	100	106	80	62						
9 "	·924	73	92	102	100	85	62	71°	84° 60°				
10 "	·928	80	89	103	103	87	62			S. W.	2		
11 "	·914	80	95	112	112	88	62						
12 "	·886	77	79	95	95	89	62						
1 P. M.	·878	79	84	87	87	83	65						
2 "	·868	83	88	95	95	86	65						
3 "	·860	82	83	88	89	82	62	80°	86° 65°	Calm.	0		
4 "	·850	78	74	76	77	73	62						
5 "	·824	71	66	66	67	66	62						
6 "	·824	65	62	62	62	62	62						
7 "	·824	65	62	62	62	62	62						
8 "	·820	63	60	59	60	60	62						
9 "	·828	62	58	57	58	58	62	54°	75° 68°				
10 "	·824	62	58	57	58	59	62						
11 "	·830	61	56	55	56	56	61						
12 "	·828	60	56	54	56	56	60						
Mean.	29·865	67·5	70·54	74·25	75·04	64·91	61·83	65·25					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Sept. 25.													
1 A. M.	29·830	56°	56°	54°	55°	56°	60°			Calm.	0	Clear.	b.
2 "	·830	54	55	53	54	56	60						
3 "	·830	54	55	53	53	56	60	55°	58° 50°				
4 "	·830	55	54	52	53	54	60						
5 "	·838	55	54	53	53	55	60						
6 "	·860	54	55	52	53	68	60						
7 "	·870	60	73	74	76	71	60						
8 "	·890	66	75	80	84	75	61			S. W.	2		b. m.
9 "	·920	70	75	75	75	76	61	69°	78° 58°		4		
10 "	·926	71	78	81	82	74	61						
11 "	·914	71	76	76	76	73	61				7		m.
12 "	·914	71	74	75	75	69	61				9		
1 P. M.	·872	68	70	70	70	67	61						
2 "	·860	64	63	67	66	65	61				6		
3 "	·856	66	66	66	67	59	61	59°	73° 50°				
4 "	·850	62	59	59	61	57	61				5		
5 "	·850	59	57	56	58	57	60						
6 "	·850	58	57	56	57	57	60				2		
7 "	·864	55	55	55	55	55	58						
8 "	·890	55	55	55	56	54	58						b. m.
9 "	·886	56	56	56	56	56	59	57°	65° 50°	Calm.	0		
10 "	·886	56	56	56	56	56	59					Cir. cum.	
11 "	·908	56	56	55	56	56	59			S. W.	5		b.q.m.
12 "	·908	57	58	55	56	56	59			Calm.	0		b. m.
Mean.	29·872	60·37	62	61·83	60·95	61·61	60·04	60					
Sept. 26.													
1 A. M.	29·908	57°	57°	55°	56°	56°	59°			Calm.	0	Cirrus.	b.c.m.
2 "	·908	56	56	55	55	56	59			S. W.	1		
3 "	·910	53	52	54	53	54	59	54°	57° 48°	Calm.	0		
4 "	·914	51	50	52	51	52	59						
5 "	·918	50	50	48	49	50	61						
6 "	·922	49	51	48	48	50	60						
7 "	·930	59	74	78	80	69	60					Clear.	b.
8 "	·972	66	80	88	92	72	59			Sd.	2		
9 "	·972	68	82	92	100	76	60	59°	61° 50°				
10 "	·984	70	89	101	107	82	60						
11 "	·972	74	96	107	110	88	60						
12 "	·966	77	95	107	107	87	60						
1 P. M.	·944	81	87	95	96	86	60						
2 "	·932	80	86	90	90	85	61						
3 "	·900	77	80	84	85	79	61	74°	66° 52°				
4 "	·890	79	81	83	83	79	61			Calm.	0		
5 "	·870	71	69	69	70	69	61						
6 "	·870	71	67	68	69	68	61						
7 "	·870	67	65	64	65	67	61						
8 "	·880	62	58	56	58	60	60						
9 "	·888	60	60	58	59	61	60	58°	59° 49°				
10 "	·860	57	52	52	54	55	60						
11 "	·870	55	54	52	53	54	60						
12 "	·892	54	54	52	53	54	60						
Mean.	29·914	64·76	72·7	69·08	74·29	67·04	60·08	61·25					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Sept. 27.													
1 A. M.	29·890	54°	55°	52°	53°	55°	59°			Calm.	0	Clear.	b.
2 "	·898	55	53	51	52	53	59						
3 "	·868	54	52	50	51	52	59	55°	59° 50°				
4 "	·850	54	54	54	54	54	59					Cirrus.	b. c.
5 "	·850	54	56	56	56	56	60						
6 "	·878	56	60	62	64	60	61						
7 "	·900	57	72	74	80	65	61						
8 "	·950	70	84	97	108	76	61						
9 "	·950	72	82	96	109	74	61	62°	70° 56°	S. W.	2		
10 "	·978	75	91	100	109	82	61						
11 "	·966	73	94	107	111	87	62						
12 "	·956	78	100	111	111	91	62						
1 P. M.	·984	81	86	93	91	85	61						
2 "	·965	78	80	84	84	80	61						
3 "	·936	78	83	84	86	82	60	75°	77° 60°				
4 "	·930	76	76	78	78	76	60						
5 "	·940	77	76	74	76	76	60					Clear.	b.
6 "	·944	72	69	68	67	69	60						
7 "	·928	66	62	60	63	63	60			Calm.	0		
8 "	·938	64	60	60	61	62	60						
9 "	·938	63	64	60	61	54	60	62°					
10 "	·942	60	58	57	51	59	60						
11 "	·950	60	60	58	58	62	60						
12 "	·958	59	59	56	57	59	59						
Mean.	29·928	66·08	70·26	70·5	74·62	68	60·25	63·5					
Sept. 28.													
1 A. M.	29·958	57°	59°	56°	56°	59°	60°			Calm.	0	Clear.	b.
2 "	·948	57	58	55	55	57	60						
3 "	·948	56	57	54	54	57	60	56°					
4 "	·950	55	56	54	53	56	60						
5 "	·950	54	55	54	53	55	60						
6 "	·950	56	55	54	53	54	60						
7 "	·980	60	74	53	82	67	60						
8 "	30·018	71	81	79	99	85	60						
9 "	·040	76	84	90	110	77	61	63°					
10 "	·034	74	95	96	114	86	62			S. W.	3		
11 "	·036	77	100	108	116	90	61						
12 "	·020	80	104	112	114	94	61						
1 P. M.	·004	80	97	114	106	95	61						
2 "	·000	84	91	108	95	90	61						
3 "	29·974	83	86	97	89	84	61	79°	60° 50°				
4 "	·950	80	83	89	85	81	61				2		
5 "	·928	78	79	82	79	78	61			W. S. W.			
6 "	·926	76	70	78	73	71	61				1		
7 "	·938	70	66	72	66	67	61						
8 "	·938	66	62	67	62	62	61			S. S. W.	2		
9 "	·930	64	59	62	60	60	60	59°	57° 48°		1		
10 "	·934	51	58	60	58	58	60						
11 "	·938	60	58	58	58	59	60						
12 "	·910	60	59	58	58	60	60						
Mean.	29·966	67·7	77·27	75·83	77·41	70·5	60·54	64·25					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Sept. 29.													
1 A. M.	29 936	58°	57°	55°	56°	58°	60°			Calm.	0	Clear.	b.
2 "	·936	56	56	54	55	56	60						
3 "	·924	55	56	54	54	56	60	56°	57° 48°				
4 "	·924	55	56	54	54	55	60						
5 "	·920	55	56	54	54	55	60						
6 "	·900	54	56	53	54	56	60						
7 "	·930	58	72	72	54	68	60			South.	1		
8 "	·950	69	80	84	98	73	60						
9 "	30·000	73	84	87	105	77	62	73°	65° 50°				
10 "	·022	73	88	89	105	81	62						
11 "	·018	73	74	105	104	85	61			S. S. W.	2		
12 "	·014	79	93	97	99	81	61						
1 P. M.	·008	75	77	79	82	78	61						
2 "	29·978	74	76	78	81	74	61						
3 "	·968	73	73	74	78	71	61	76°	81° 58°	S. W.			
4 "	·930	63	60	61	62	60	61						
5 "	·928	60	58	58	59	59	60				4		
6 "	·928	60	60	59	60	61	61						
7 "	·930	58	56	57	57	56	59						
8 "	·938	56	54	55	56	55	59						b. m.
9 "	·952	56	54	54	55	54	59	57°	61° 48°				
10 "	·948	56	54	54	54	54	59				2		
11 "	·964	55	54	53	54	54	59						
12 "	·964	55	54	53	54	54	59						
Mean.	29·955	62·46	64·91	66·37	68·5	63·79	60·2	65·5					
Sept. 30.													
1 A. M.	29·964	55°	54°	53°	54°	54°	60°			S. W.	2	Clear.	b. m.
2 "	·940	54	53	52	53	53	60						
3 "	·952	54	52	52	53	52	60	54°					
4 "	·960	54	52	51	52	51	60						
5 "	·970	54	53	52	54	53	60						f.
6 "	·988	55	55	54	55	54	60						
7 "	·980	56	56	55	56	56	60			S. S. W.			
8 "	30·000	61	69	67	69	67	60						
9 "	29·996	62	68	64	67	66	60	59°					
10 "	30·022	64	69	67	69	67	60			South.			
11 "	·014	64	69	67	69	67	60				4		
12 "	·012	64	69	68	69	69	60						
1 P. M.	29·990	65	68	67	69	67	60						
2 "	·990	63	65	64	66	64	59						
3 "	30·000	62	60	60	62	60	59	59°			5		
4 "	·000	60	58	59	60	59	60						
5 "	29·990	59	56	59	59	58	59				3		
6 "	·998	59	57	57	58	58	59						
7 "	30·000	58	57	56	57	58	59						
8 "	·020	59	58	58	58	58	59			S. by E.			
9 "	·022	59	58	57	58	57	61	56°					
10 "	·028	58	57	57	57	58	61			South.			
11 "	·020	58	56	56	56	57	60						
12 "	·018	58	57	57	57	58	60			S. S. W.			
Mean.	29·995	58·95	59·41	58·7	59·79	59·21	59·83	57					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Oct. 1.													
1 A. M.	30·020	58°	57°	57°	57°	57°	60°			S. W.	2	Stratus.	f.
2 "	·028	58	56	56	56	56	60						
3 "	·024	58	57	56	56	57	60	56°					
4 "	·026	58	57	56	56	58	60			Var.	1		
5 "	·024	58	57	56	56	58	60						
6 "	·024	58	57	56	56	57	60						c.
7 "	·040	58	58	57	58	58	60			S. W.	3		
8 "	·040	58	61	59	60	60	60					Cir. stra.	b. c.
9 "	·058	60	60	61	62	60	60	60°					
10 "	·060	63	66	67	68	65	60						
11 "	·092	69	81	91	89	75	60						
12 "	·088	72	78	93	89	72	60						
1 P. M.	·064	64	70	76	76	68	60						
2 "	·050	64	64	69	69	63	61				4		
3 "	·040	63	62	65	65	62	60	60°					
4 "	·038	61	61	62	62	61	60			S. S. W.		Cir. cum.	
5 "	·056	60	58	59	60	58	60						
6 "	·034	58	57	56	57	58	60			S. W.			
7 "	·020	58	56	56	57	57	60			W. S. W.	3		
8 "	·032	57	56	56	56	57	60						
9 "	·030	57	56	55	56	56	62	52°					
10 "	·030	56	56	54	56	56	62						
11 "	·040	56	56	55	56	56	60			S. W.			
12 "	·060	56	56	55	56	56	60				1		
Mean.	30·042	59·91	60·54	61·79	62·04	60·04	60·2	57					
Oct. 2.													
1 A. M.	30·060	56°	54°	55°	56°	56°	59°			S. W.	1	Cir. cum.	b. c.
2 "	·060	55	54	54	54	56	59						
3 "	·062	55	54	54	55	56	59	54°					
4 "	·040	55	54	54	54	55	59						
5 "	·030	55	54	54	54	55	59			Var.			f.
6 "	·060	56	56	56	56	57	59						
7 "	·090	57	57	56	57	58	58						
8 "	·128	60	64	62	64	63	60					Stratus.	
9 "	·190	64	69	81	80	70	60	60°		S. W.	2		b. c.
10 "	·152	63	69	78	82	78	60			S. S. W.			
11 "	·160	70	72	82	85	73	60				5		
12 "	·168	69	70	85	89	74	60						
1 P. M.	·052	71	68	74	77	71	60						
2 "	·148	71	66	73	76	70	61						
3 "	·118	69	62	68	70	67	60	60°			6		
4 "	·112	64	60	66	61	59	60					Clear.	b.
5 "	·110	60	57	57	58	57	60			S. W.			
6 "	·102	57	54	55	56	55	60				8		
7 "	·102	56	55	55	56	56	60						b. m.
8 "	·118	55	53	54	55	55	60				7		
9 "	·120	54	52	52	53	53	59	54°					
10 "	·118	53	51	51	52	52	59				5		
11 "	·120	52	51	51	52	52	60						f.
12 "	·134	51	51	51	51	51	60				3		
Mean.	30·106	59·5	58·62	61·53	62·62	60·37	59·42	57					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Oct. 3.													
1 A. M.	30·136	50°	50°	50°	51°	51°	59°			S. S. W.	2	Overcast.	f.
2 "	·146	50	52	51	52	52	59						
3 "	·150	52	52	50	52	52	56	54°	53° 48°				
4 "	·150	52	52	50	52	52	56						
5 "	·160	53	53	52	52	53	56				1		
6 "	·180	54	54	52	52	53	59						
7 "	·184	54	54	53	54	54	60						
8 "	·180	56	61	60	61	59	60			S. E.	2	Clear.	b.
9 "	·188	62	78	90	88	68	60	56°	57° 48°				
10 "	·180	61	78	96	93	70	60						
11 "	·178	62	75	94	90	68	60						
12 "	·168	63	71	90	88	74	60			S. S. E.			
1 P. M.	·152	70	75	76	79	73	60			South.			
2 "	·152	70	74	74	76	72	60						
3 "	·118	70	71	72	74	70	60	66°	57° 49°		3		
4 "	·192	69	69	69	69	65	60						
5 "	·080	63	59	60	61	60	60			S. W.	2		
6 "	·060	57	55	59	56	56	60						
7 "	·070	56	54	57	57	54	60						
8 "	·078	56	54	54	54	55	60					Cir. stra.	c.
9 "	·080	55	53	52	54	54	60	56°	58° 50°	Calm.	0		
10 "	·080	52	50	50	52	50	60					Stratus.	
11 "	·084	52	50	50	50	50	60			S. W.	2		
12 "	·084	51	50	49	50	50	60					Overcast.	f.
Mean.	30·134	57·91	60·16	62·91	63·16	58·96	60·37	58					
Oct. 4.													
1 A. M.	30·082	50°	50°	48°	50°	50°	60°			S. W.	2	Overcast.	f.
2 "	·082	50	50	48	49	50	60						F.
3 "	·064	50	49	48	48	48	60	51°	52° 45°				
4 "	·060	50	49	48	48	48	60			Calm.	0		
5 "	·054	50	49	48	48	48	60					Stratus.	
6 "	·078	50	49	49	49	49	60						
7 "	·068	50	54	53	54	54	59						
8 "	·068	55	58	58	58	58	60						
9 "	·060	58	60	61	63	57	60	57°	58° 48°			Cir. stra.	c.
10 "	·076	63	71	78	77	76	60						
11 "	·070	63	73	93	87	67	60						
12 "	·056	63	79	81	79	63	61						
1 P. M.	·036	66	82	95	91	74	60					Clear.	b. c. m.
2 "	·016	68	81	90	88	75	60						
3 "	·000	64	60	61	64	60	60	64°	65° 48°				
4 "	·000	63	59	60	62	59	61						
5 "	·000	62	64	62	63	64	61						b. m.
6 "	29·966	60	66	58	58	56	60						
7 "	·980	58	55	57	56	54	59						
8 "	·974	56	56	54	54	55	59			W. N. W.	2		
9 "	·986	55	52	52	52	52	59	54°	55° 46°		3		
10 "	·978	54	50	51	52	51	59			S. W.			
11 "	·970	53	50	51	51	50	59				4		
12 "	·964	52	49	50	50	49	59				3		
Mean.	30·029	56·79	58·95	60·58	60·96	56·96	59·54	56·5					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Oct. 5.													
1 A. M.	29·950	51°	48°	49°	50°	49°	60°			S. S. W.	3	Clear.	b. m.
2 "	·950	51	48	49	49	48	60			Calm.	0		
3 "	·950	50	47	48	48	46	61	53°	54° 47°	S. E.	2		
4 "	·960	52	52	50	51	51	61						
5 "	·960	51	50	49	50	50	60						
6 "	·960	50	49	46	48	49	60			Var.	1		
7 "	·956	53	61	64	66	61	60						
8 "	·956	58	72	72	76	76	61			S. W.	2		
9 "	30·000	62	76	88	87	88	60	57°	57° 44°				
10 "	29·972	64	78	96	93	70	60						
11 "	·976	67	74	93	89	69	60						
12 "	·968	67	86	98	96	78	60						
1 P. M.	·936	71	84	96	73	80	60						
2 "	·928	76	88	99			60				4		
3 "	·926	76	82	92			60	72°	52° 44°				
4 "	·902	75	74	77			60				3		
5 "	·880	77	67	69			60						
6 "	·900	66	58	60			61						
7 "	·900	63	57	56			60						
8 "	·900	62	57	55			60						
9 "	·900	61	58	54			60	66°	58° 48°				
10 "	·892	57	53	52			60			Calm.	0		
11 "	·886	57	54	52			60						
12 "	·892	57	54	51			60						
Mean.	29·933	61·41	63·62	67·29	67·38	62·69	60·16	62					
Oct. 6.													
1 A. M.	29·896	56°	53°	51°	52°	53°	60°			Calm.	0	Clear.	b. m.
2 "	·898	56	52	51	52	52	60						
3 "	·924	56	52	51	52	52	60	56°	60° 48°				
4 "	·912	56	51	50	50	51	60						
5 "	·928	55	53	50	52	53	60						
6 "	·958	55	52	50	51	52	60						
7 "	·982	58	67	64	66	64	60			Var.	1		
8 "	30·000	63	74	75	79	71	60						
9 "	·022	69	81	97	93	75	61	63°	65° 48°				
10 "	·018	75	88	110	108	80	61			Calm.	0		
11 "	·016	72	92	114	110	83	63						
12 "	29·978	77	98	119	114	91	62						
1 P. M.	·978	78	94	115	111	89	62						
2 "	·980	80	99	119	116	92	62						
3 "	·982	80	98	115	112	93	62	70°	69° 55°				
4 "	·968	83	93	105	104	88	60						
5 "	·970	77	72	74	74	73	61						
6 "	·982	72	64	68	68	65	62						
7 "	30·000	68	61	60	60	62	62						
8 "	29·996	67	59	58	57	59	62			S. W.	1		
9 "	30·000	64	60	57	58	60	62	60°	58° 48°	Calm.	0		
10 "	29·986	62	59	57	57	59	60						
11 "	·986	61	56	54	55	57	60						
12 "	·992	61	56	53	55	55	61						
Mean.	29·973	66·7	70·16	75·71	75·25	67·87	60·96	62·25					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Oct. 7.													
1 A. M.	29·992	60°	53°	51°	52°	54°	60°			Calm.	0	Clear.	b. m.
2 "	·984	59	56	54	54	56	60						
3 "	·986	58	53	54	53	53	60	56°	62° 48°				
4 "	·976	58	54	50	52	54	60						
5 "	·988	56	52	51	50	52	60						
6 "	·998	56	53	49	50	53	60						
7 "	·988	59	60		60	60	60						
8 "	·992	69	72		82	69	61						
9 "	30·050	74	86		104	80	61	65°	68° 52°	S. E.	2		
10 "	·054	71	89		109	82	61						
11 "	·024	74	97		116	89	61						
12 "	·022	74	93		116	96	61						
1 P. M.	29·990	82	100			92	63				4		
2 "	·982	85	94			90	63						
3 "	·964	82	85			83	63	77°	76° 60°				
4 "	·934	77	75			77	62						
5 "	·922	72	72			73	62						
6 "	·932	72	72			69	62			S. S. W.	2		
7 "	·932	70	69			67	62				3		
8 "	·932	70	68			61	62						
9 "	·924	68	60	63	62	61	60	63°	65° 50°		4		
10 "	·926	66	63	63	63	64	60			South.			f.
11 "	·928	66	65	62	62	65	61				3		
12 "	·928	64	62	64	63	63	61						
Mean.	29·972	68·41	70·96	56·1	71·75	69·29	61·08	65·25					
Oct. 8.													
1 A. M.	29·932	64°	62°	65°	64°	64°	62°			S. S. W.	5		F.
2 "	·950	65	62	63	62	64	61						
3 "	·950	64	63	63	62	65	61	60°	61° 54°				f.
4 "	·952	62	63	62	62	63	61				4		
5 "	·944	59	57		57	58	61					Stratus.	c.
6 "	·930	60	57		57	57	61						
7 "	·930	63	61		61	60	61						
8 "	·938	64	63		67	63	61				7		c. q.
9 "	·962	64	65		70	64	61	59°	60° 50°				
10 "	·966	64	68		71	68	61				9		
11 "	·958	65	70		73	67	61				6		
12 "	·954	66	71		73	68	61						
1 P. M.	·950	66	72		74	68	61				8		c. q. m.
2 "	·916	66	69		74	66	61						
3 "	·900	65	68		74	65	61	60°	62° 50°		10		
4 "	·880	65	58		59	58	60				7		
5 "	·880	59	57		59	57	60				9		c. q. f.
6 "	·900	59	57		57	57	60				8		
7 "	·926	59	57		57	58	60						q. F.
8 "	·944	59	57		57	57	60						
9 "	·970	58	57		56	57	60	56°	57° 50°				
10 "	·975	58	57		56	57	60				6		
11 "	·982	58	57		56	57	60						f.
12 "	·978	58	57		56	57	60				5		
Mean.	29·940	62·08	61·87	63·25	63·08	61·46	60·66	58·75					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Oct. 9.													
1 A. M.	29·976	58°	57°		56°	57°	60°			S^{d}.	4	Overcast.	f.
2 "	·958	58	57		56	57	60						
3 "	·950	59	57		56	57	60	56°					
4 "	·980	59	57		56	57	60			S. S. W.	7		
5 "	·960	59	57		56	57	60				4	Clear.	b. m.
6 "	·942	59	57		56	57	60				3		
7 "	·954	59	57		57	58	60						
8 "	·970	59	57		58	59	60						
9 "	·956	61	58		63	63	60	58°			4		
10 "	·986	65	63		74	68	60						
11 "	·984	67	71		80	68	60						
12 "	·976	71	73		82	71	60						
1 P. M.	·954	69	72		79	68	61			S. W.			
2 "	·940	66	63		71	63	61						
3 "	·930	61	58		60	58	61	57°			5		f.
4 "	·900	59	56		57	56	60						
5 "	·900	57	55		55	55	59						
6 "	·900	55	54		53	54	59				6		F.
7 "	·890	55	54		54	55	59						
8 "	·900	56	55		55	55	59						
9 "	·880	55	55		55	55	59					Stratus.	f.
10 "	·884	55	55		55	55	57			W^{d}.			
11 "	·880	55	55		55	55	57						c. m.
12 "	·864	55	55		55	54	57						
Mean.	29·934	59·66	58·75		60·58	58·83	59·5	57					
Oct. 10.													
1 A. M.	29·890	55°	54°		53°	55°	60°			W. S. W.	5	Cir. stra.	b. c. m.
2 "	·872	55	54		53	54	60						
3 "	·852	54	54		53	54	60	53°					
4 "	·864	54	53		53	54	60				4		
5 "	·890	54	53		52	53	60						
6 "	·900	54	52		51	52	60						b. c.
7 "	·924	54	52		52	53	60						
8 "	·936	56	56		56	56	60						
9 "	·936	60	62		65	63	60	58°				Cir. cum.	
10 "	·938	64	71		72	68	60			S. W.			
11 "	·944	71	66		80	66	60				3		
12 "	·940	69	70		74	67	60						
1 P. M.	·932	70	70	74°	74	68	60						
2 "	·914	67	67	68	73	66	60			S. S. W.		Stratus.	
3 "	·904	69	74	77	75	70	61	61°	62° 48°				
4 "	·890	65	59	61	64	59	60						
5 "	·882	60	56	57	57	56	60					Cir. stra.	
6 "	·900	55	52	53	53	53	60			S. W.			
7 "	·800	53	51	51	51	51	60						
8 "	·890	52	51	51	50	51	60						
9 "	·880	51	51	50	49	51	60	59°	53° 46°				
10 "	·902	51	48	47	46	48	60				2		
11 "	·922	51	48	47	46	47	60						
12 "	·904	49	47	46	45	47	60						
Mean.	29·900	58·04	57·12	56·83	58·21	56·75	60·04	57·75					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Oct. 11.													
1 A. M.	29·900	51°	48°	49°	47°	50°	60°			S. W.	1	Cir. stra.	b. c.
2 "	·900	51	48	48	47	50	60						
3 "	·900	51	49	48	47	50	58	51°		Calm.	0	Clear.	b.
4 "	·906	52	51	49	49	51	58						
5 "	·930	52	49	48	49	49	58			N. E.	1		
6 "	·930	51	48	47	47	48	59					Cir. cum.	b. c.
7 "	·930	53	55	54	55	53	59			E. N. E.		Cumulus	
8 "	·938	57	57	58	56	56	59			East.			
9 "	·942	62	66	74	69	59	60	54°		S. E.			
10 "	·982	63	74	81	79	68	60						
11 "	·982	64	74	81	83	68	60						
12 "	·996	64	73	77	82	68	60			Calm.	0		
1 P. M.	·942	65	71	77	83	69	60			W. S. W.	4		b. c. m.
2 "	·932	64	71	74	80	67	60						
3 "	·914	64	64	66	71	63	60	59°					
4 "	·900	63	61	63	67	61	60				5		
5 "	·900	58	58	58	58	58	50				6		
6 "	·904	57	55	55	55	55	60						
7 "	·908	56	55	55	54	55	59				4		
8 "	·930	53	52	53	52	52	59			S. W.			
9 "	·930	53	52	52	52	52	60	52°			3		
10 "	·950	53	51	52	51	51	60						
11 "	·904	53	51	51	51	51	60						
12 "	·932	53	51	51	51	51	60				2		
Mean.	29·928	56·79	57·66	59·21	59·79	56·46	59·54	54					
Oct. 12.													
1 A. M.	29·942	53°	50°	51°	50°	51°	60°			S. W.	2	Cirrus.	b. c. m.
2 "	·930	53	49	51	50	51	60						
3 "	·930	52	49	51	50	51	60	52°	53° 48°				
4 "	·930	52	49	51	50	51	60						
5 "	·931	52	49	51	50	51	59			Calm.	0		
6 "	·932	52	50	49	49	50	59						
7 "	·930	51	51	51	50	51	59						
8 "	·940	58	68	67	63	58	59						
9 "	·982	63	70	73	72	60	60	58°	55° 46°	South.	4	Clear.	b.
10 "	·982	67	69	74	76	64	60						
11 "	·968	62	71	77	80	68	60						
12 "	·968	65	75	79	85	71	61						
1 P. M.	·938	65	73	77	83	69	61			S. W.	3		
2 "	·928	63	69	73	80	67	60						
3 "	·908	63	66	69	75	64	60	64°	64° 50°	S. S. W.			
4 "	·900	63	62	66	71	61	60						
5 "	·880	57	56	56	56	57	61						
6 "	·886	57	57	57	56	56	60						
7 "	·904	57	53	53	53	53	60			South.			b. w.
8 "	·900	56	53	53	53	54	60			S. S. W.	2		
9 "	·912	55	54	53	53	54	59	54°	55° 50°	S. W.			
10 "	·912	54	52	51	51	52	59						
11 "	·912	53	49	48	49	49	59						
12 "	·900	52	49	49	48	49	59						
Mean.	29·927	57·29	58·04	59·58	60·54	56·75	59·79	57					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Oct. 13.													
1 A. M.	29·894	52°	49°	48°	48°	49°	59°			S. W.	2	Clear.	b. w.
2 "	·900	52	49	49	49	49	59						
3 "	·886	51	49	48	49	49	59	50°	54° 48°				
4 "	·874	51	49	48	48	49	58			S. S. E.	4	Stratus.	c.
5 "	·880	51	46	46	47	47	58						
6 "	·884	49	44	45	45	46	58			South.			
7 "	·884	49	50	49	49	50	60						
8 "	·884	52	53	52	52	52	60				6		
9 "	·904	56	64	66	65	58	60	52°	58° 48°	S. W.			
10 "	·950	59	64	65	67	68	60						
11 "	·950	60	62	61	68	60	60						
12 "	·974	61	63	63	70	62	60				7		
1 P. M.	·960	60	59	58	62	57	60						c. q.
2 "	·964	59	57	59	60	57	60						
3 "	·964	58	57	58	58	57	60	52°	64° 48°				
4 "	·978	57	57	57	57	57	60						
5 "	·976	57	55	55	55	55	60				5		
6 "	30·000	57	54	54	53	54	60						
7 "	·016	57	54	54	53	53	60			S. S. W.			
8 "	·030	57	55	55	54	55	60						c.
9 "	·000	57	54	54	54	53	60	53°	54° 46°	S. W.	3		
10 "	·000	57	54	54	54	54	60				2		
11 "	·066	57	55	55	55	56	59						
12 "	·066	57	55	55	55	56	59						
Mean.	29·953	55·54	54·5	54·5	55·29	54·29	59·54	51·75					
Oct. 14.													
1 A. M.	30·090	57°	55°	55°	55°	56°	60°			S. W.	2	Cir. stra.	c.
2 "	·100	57	55	55	55	56	60						
3 "	·100	58	56	55	55	56	60	55°					
4 "	·100	58	56	55	55	56	60						b. c.
5 "	·110	58	56	56	56	56	59						
6 "	·120	58	56	56	56	56	59						
7 "	·138	58	58	58	57	58	59						
8 "	·140	60	58	60	59	58	59			S.W. by S.		Clear.	b. m.
9 "	·186	68	66	78	78	62	59	58°	59° 48°				
10 "	·200	69	78	84	86	73	60				3		
11 "	·216	66	76	84	90	73	60						
12 "	·204	66	75	82	87	70	60						
1 P. M.	·200	70	70	75	81	68	60						
2 "	·192	72	72	75	80	68	60						
3 "	·188	70	65	68	70	64	60	58°	65° 40°				
4 "	·172	65	60	61	62	60	60						
5 "	·156	62	59	59	59	59	60			Var.	1		
6 "	·160	60	60	59	58	60	60			S. E.			
7 "	·170	60	58	58	58	59	60						
8 "	·168	59	58	58	57	58	61			Calm.	0		
9 "	·188	59	56	57	56	57	60	57°	60° 48°				
10 "	·198	59	56	55	55	57	60						
11 "	·200	58	54	54	53	54	60						
12 "	·198	57	54	54	54	53	60						
Mean.	30·162	61·83	61·12	62·95	63·83	60·29	59·83	57					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Oct. 15.													
1 A. M.	30·200	57°	52°	51°	51°	52°	59°			Calm.	0	Clear.	b. m.
2 "	·186	56	52	51	51	52	59						
3 "	·178	55	52	51	51	52	59	54°	58° 48°				
4 "	·200	54	50	49	49	50	59						
5 "	·200	54	50	49	49	50	58						
6 "	·200	54	54	54	55	55	59						
7 "	·200	55	56	56	57	57	59						
8 "	·200	62	65	72	65	62	60						b.
9 "	·188	63	76	90	80	65	60	61°	62° 50°	S. W.	2		
10 "	·208	69	82	98	91	73	60						
11 "	·204	73	72	84	83	71	60						
12 "	·190	72	73	75	80	70	60						
1 P. M.	·164	71	66	70	81	73	60			W. S. W.			
2 "	·164	72	75	77	76	78	60						
3 "	·152	74	81	78	78	76	60	64°	65° 52°	S. W.			
4 "	·144	74	69	76	66	64	60						
5 "	·102	66	64	64	54	61	60			S. S. W.			
6 "	·102	60	59	59	54	54	60						b. m.
7 "	·102	61	54	54	54	57	60						
8 "	·110	58	54	53	53	53	60						
9 "	·106	53	52	52	52	53	60	57°	59° 49°	Calm.	0		
10 "	·116	55	52	51	51	52	60						
11 "	·110	55	51	51	51	51	60						
12 "	·100	55	50	49	49	50	60						
Mean.	30·159	61·58	60·87	63·08	61·71	59·62	59.66	59					
Oct. 16.													
1 A. M.	30·094	54°	50°	49°	49°	50°	59°			Calm.	0	Clear.	b. m.
2 "	·084	54	50	49	49	50	59						
3 "	·080	53	49	48	48	49	59	52°	58° 50°				
4 "	·080	52	50	49	48	50	59						f.
5 "	·076	52	50	49	48	50	60						
6 "	·068	53	50	49	48	49	60						
7 "	·088	53	54	54	53	54	60						
8 "	·104	59	54	77	68	59	60			Var.	1		
9 "	·112	64	74	98	82	68	60	57°	60° 50°				
10 "	·124	65	86	106	97	70	60						b. m.
11 "	·100	70	91	90	95	75	60			S. W.	2		
12 "	·100	71	82	81	87	78	60						b.
1 P. M.	·066	73	87	112	103	82	60						
2 "	·050	77	87	96	100	82	60						
3 "	·022	78	83	92	96	80	60	68°	60° 52°				
4 "	·016	76	68	72	74	69	60			Calm.	0		
5 "	29·986	68	62	64	60	54	60						
6 "	·982	65	60	60	56	60	60						
7 "	·982	60	56	56	54	56	61					Cirrus.	b. c.
8 "	·970	60	54	54	54	55	60					Cir. stra.	
9 "	·986	58	54	54	53	55	60	56°	59° 49°			Clear.	b.
10 "	·966	56	53	53	52	54	60						
11 "	·964	55	54	52	52	53	60						
12 "	·964	56	52	51	51	51	60						
Mean.	30·041	61·75	62·91	67·29	65·71	60·54	59·87	58·25					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Oct. 17.													
1 A. M.	29·968	55°	51°	50°	49°	51°	60°			Calm.	0	Clear.	b. w.
2 "	·968	54	49	49	49	49	60						
3 "	·968	55	49	48	48	48	59	50°	58° 48°				
4 "	·968	55	48	47	47	47	59			Var.	1		
5 "	·968	55	48	46	46	46	59						b.
6 "	·966	52	48	46	46	48	59			S. W.			
7 "	·965	52	58	59	56	55	60						
8 "	·962	61	77	82	72	64	60				2		
9 "	30·000	64	82	96	83	67	61	61°	62° 48°				
10 "	·000	70	91	109	99	78	60						
11 "	·014	71	78	98	97	79	60						
12 "	29·986	71	103	120	115	91	60						
1 P. M.	·982	75	87	97	103	82	61				4		
2 "	·962	75	83	89	96	80	61						
3 "	·952	69	74	86	83	72	61	71°	65° 50°		2		
4 "	·924	70	66	76	73	67	61						
5 "	·924	67	64	71	66	65	61						
6 "	·924	62	58	66	58	59	61			Calm.	0		
7 "	·930	60	55	58	54	55	60						
8 "	·932	60	54	54	54	54	60						b. w.
9 "	·926	58	53	54	57	53	60	56°	60° 51°				
10 "	·932	56	52	52	51	52	60						
11 "	·936	54	53	52	51	53	60						
12 "	·936	55	52	51	51	51	60						
Mean.	29·958	61·5	63·87	69	66·83	61·08	60·12	59·5					
Oct. 18.													
1 A. M.	29·946	54°	52°	50°	49°	51°	60°			Calm.	0	Clear.	b. w.
2 "	·966	55	51	51	50	51	60						
3 "	·936	54	51	49	49	51	59	54°	59° 48°				
4 "	·942	54	51	50	50	52	59						
5 "	·936	52	50	48	48	50	59			N^{d}.	1		
6 "	·950	53					59						
7 "	·958	54	60	62	60	58	61						b.
8 "	·964	62	81	100	85	60	61			S. W.			
9 "	·990	70	89	108	96	71	61	61°	65° 50°		3		
10 "	30·020	71	93	112	104	81	61				2		b. m.
11 "	·020	76	108	125	120	97	60			Calm.	0		
12 "	·004	81	112	129	126	101	60						
1 P. M.	·008	85	114	132	129	103	61						
2 "	29·984	85	108	129	127	99	61			S. W.	2		b.
3 "	·974	87	110	132	130	104	61	64°	68° 54°				
4 "	·960	83	80	85	88	80	61						
5 "	·946	73	65	69	66	66	61			Calm.	0		
6 "	·938	66	62	61	61	62	61						
7 "	·950	64	59	60	59	60	61						b. w.
8 "	·950	63	59	58	59	59	61						
9 "	·958	60	56	56	55	56	60	67°	60° 48°				
10 "	·948	59	57	55	54	56	60						
11 "	·942	57	56	53	53	56	60						
12 "	·930	57	55	53	53	55	60						
Mean.	29·963	65·62	73	79·43	77	68·65	60·33	61·5					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Oct. 19.													
1 A. M.	29·942	57°	56°	53°	53°	50°	60°			Calm.	0	Clear.	b. w.
2 "	·930	56	54	51	51	54	60						
3 "	·946	55	52	50	50	52	60	57°	58° 48°				
4 "	·944	55	62	58	57	55	60						
5 "	·936	62	63	62	62	65	60			Nd.	1		b.
6 "	·954	63	65	68	64	66	60						
7 "	·960	74	71	72	70	70	60						
8 "	·992	70	83	93	80	78	60				3		
9 "	30·038	74	89	103	98	78	60	69°	70° 48°				
10 "	·036	75	95	108	105	86	60						
11 "	·040	77	98	108	108	92	60						
12 "	·020	82	105	125	123	99	61				2		l.
1 P. M.	·022	83	109	126	124	105	61						
2 "	·014	85	98	117	117	95	61						
3 "	29·996	84	98	113	112	99	61	80°					
4 "	·888	82	79	81	81	81	61			Calm.	0		
5 "	·976	77	72	73	72	70	62						
6 "	·972	75	66	67	68	66	61						
7 "	·976	74	62	66	66	66	61						
8 "	·972	72	59	59	59	63	61						b. m.
9 "	·968	66	59	58	58	60	61	59°	60° 40°				
10 "	·962	62	58	58	57	60	61						
11 "	·960	60	58	56	55	59	61						
12 "	·968	59	55	55	55	56	60			Nd.	2		b.
Mean.	29·975	69·96	73·58	78·33	76·87	71·87	60·54	66·25					
Oct. 20.													
1 A. M.	29·970	59°	55°	53°	53°	56°	60°			Nd.	4	Clear.	b.
2 "	·982	57	56	54	53	56	60						
3 "	·972	57	58	56	55	59	60	64°	58° 48°				
4 "	·976	57	56	56	56	57	60						
5 "	·972	56	55	52	52	56	60			Calm.	0		
6 "	·978	58	62	60	60	64	60						
7 "	·992	60	64	64	64	65	61						
8 "	·986	70	86	98	84	80	61			N. W.	2		
9 "	·980	71	92	106	100	79	61	70°	65° 48°				
10 "	·976	74	92	110	107	85	61						
11 "	30·086	79	100	114	113	93	61				3		
12 "	·084	80	104	118	117	98	61						
1 P. M.	·086	84	110	129	128	124	62			N. N. W.			
2 "	·068	86	115	133	131	105	62				2		
3 "	·068	87	112	132	130	107	62		62° 50°	North.			
4 "	·060	82	79	81	82	80	63						
5 "	·054	80	76	77	76	75	63						
6 "	·048	76	70	71	72	70	62			Var.	1		
7 "	·040	70	60	62	62	62	61			West.			b. w.
8 "	·060	64	56	56	57	58	61						
9 "	·060	62	58	57	57	58	61	61°	58° 50°	South.			
10 "	·070	60	56	54	54	56	61						
11 "	·062	58	54	53	53	54	60						
12 "	·060	56	52	51	51	52	60						
Mean.	30·029	68·46	74·08	79·04	77·79	72·88	61	65					

OBSERVATORY.

SAUSALITO, CALIFORNIA.

1841.	Barom.	THERMOMETERS.							Hygrom.	WIND.		Clouds.	Weather.
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.		Direc.	Force.		
Oct. 21.													
1 A. M.	30·060	50°	52°	51°	51°	52°	61°			South.	1	Clear.	b. w.
2 "	·060	50	52	51	51	52	62			Calm.	0		
3 "	·060	50	51	51	51	51	62		56° 48°				
4 "	·068	50	51	51	50	50	61						b.
5 "	·076	50	48	49	50	49	61						
6 "	·080	50	48	48	47	48	60						
7 "	·090	52	56	53	52	54	60			Var.	1		
8 "	·090	59	72	78	66	62	60						
9 "	·102	68	70	86	86	68	60		60° 48°				b. m.
10 "	·136	70	77	87	87	68	60			Calm.	0		
11 "	·122	66	82	97	96	79	61						
12 "	·108	70	89	99	103	80	61						
1 P. M.	·106	71	94	95	97	108	60						
2 "	·108	77	93	105	108	88	60			N. W.	1		
3 "	·106	79	87	96	101	85	60		60° 50°				b.
4 "	·102	76	73	75	76	74	60				3		
5 "	·102	71	72	73	70	71	60						
6 "	·092	67	59	60	60	60	60						
7 "	·082	62	56	56	56	56	60						b. w.
8 "	·080	60	55	53	53	54	60			Calm.	0		
9 "	·080	57	54	54	54	55	61		58° 50°				
10 "	·092	57	54	52	51	51	61						
11 "	·090	54	50	50	50	51	61						
12 "	·102	53	50	48	48	49	61						
Mean.	30·091	61·21	64·37	67·41	67·25	63·12	60·54						
Oct. 22.													
1 A. M.	30·102	50°	48°		49°	49°	60°			Calm.	0	Clear.	b. w.
2 "	·102	50	48		48	49	60						
3 "	·060	51	47		46	47	60		58° 48°				
4 "	·070	50	47		44	46	60						
5 "	·106	50	48		44	46	61			West.	1		b. m.
6 "	·050	49	46		45	46	61			Calm.	0		
7 "	·010	49	62		49	50	61						
8 "	·080	55	61		58	55	61						
9 "	·102	57	61		60	57	61		60° 50°				F.
10 "	·102	60	64		67	62	61			Var.	1		
11 "	·102	61	75		74	72	61						
12 "	·102	63	83		96	79	61						
1 P. M.	·080	67	85		97	80	61						
2 "	·060	71	92		102	87	61						
3 "	·060	73	84		99	82	61		68° 54°				
4 "	·104	89	65		69	66	61			Calm.	0		
5 "	·106	65	67		65	68	61						f.
6 "	·106	63	62		59	62	61			Var.			
7 "	·106	61	60		59	61	61						
8 "	·106	68	65		54	54	61						F.
9 "	·106	55	52		53	53	61		58° 50°	S. W.	1		
10 "	·110	54	52		52	52	61						
11 "	·122	53	51		51	52	61			Calm.	0		
12 "							61						
Mean.	30·089	59·3	61·95		62·61	59·78	60·83						

OBSERVATORY.

SAUSALITO, CALIFORNIA.

DAILY MEANS.

1841.	Barometer.	THERMOMETERS.						
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.
Aug. 23d.	30.072	67·92	68·45	72·58	67·71	64·16	60·58	59·25
" 24th.	30·049	68·87	66·66	73·92	70·5	67·96	60·96	65
" 25th.	30·002	69·46	70·79	77·25	70·79	67·83	60·96	65·25
" 26th.	29·945	69·29	73·37	78·5	73·12	70·54	61·04	63·25
" 27th.	29·931	59·46	59·29	59·96	59·25	59·12	60·25	60·5
" 28th.	29·917	61·37	62·46	63·91	61·45	60·92	60·29	59·5
" 29th.	29·885	63·12	62·58	63·37	61·79	61·51	60·46	66
" 30th.	29·927	61·37	62·33	63·46	63·08	60·66		54·5
" 31st.	29·889	60·75	61·96	64·62	63·25	60·21	60·46	59·5
Sept. 1st.	29·859	56·12	57·04	56·75	56·79	56·66	59·04	54·75
" 2d.	29·883	56·08	55·91	55·75	55·54	55·62		54
" 3d.	29·853	56	55·96	55·87	55·58	55·87		55·25
" 4th.	29·898	59·96	60·79	61·29	59·71	59·95		57
" 5th.	29·961	64·43	67·65	69·3	71·17	64·69		55
" 6th.	30·016	58·2	60·12	60·12	62·04	58·87		54·5
" 7th.	29·857	56	55·95	55·92	55·58	55·87		56
" 8th.	29·898	59·95	60·79	61·29	59·71	59·96		58
" 9th.	29·961	63·83	66·7	68·46	70·25	64·12		62·75
" 10th.	30·014	58·17	60·46	60·12	62·33	58·79		61
" 11th.	30·015	57·41	58·58	58·29	59·79	57·39	59·71	59·75
" 12th.	30·011	55·66	56·91	55·21	57·71	56	59·33	59·75
" 13th.	29·975	54·87	54·96	53·46	55·71	54·16	58·58	53·5
" 14th.	29·976	55·75	56·41	55·5	56·96	55·71	59·04	54
" 15th.	29·947	54·5	54·79	54	55·37	54·46	58·79	54
" 16th.	29·887	54·45	54·12	54·46	55·36	54·04	58·46	53
" 17th.	29·883	55·12	56·12	54·87	56·93	55·66	58·71	54
" 18th.	29·994	57·7	59	59·79	60·54	58·91	58·75	55·5
" 19th.	30·071	62·37	64·37	66·71	67·79	63·62	59·5	58·75
" 20th.	30·070	59·04	60·39	61·82	62·08	59·04	59·54	56·25
" 21st.	30·095	66·37	68·12	70·95	72·95	65·79	60	61
" 22d.	30·046	70·91	74·56	78·69	79·65	72·56	60·62	66·25
" 23d.	29·923	69·04	73·41	77·7	79·61	70·87	61·04	66
" 24th.	29·865	67·5	70·54	74·25	75·04	64·91	61·83	65·25
" 25th.	29·872	60·37	62	61·83	60·95	61·61	60·04	60
" 26th.	29·914	64·76	72·7	69·08	74·29	67·04	60·08	61·25
" 27th.	29·928	66·08	70·26	70·5	74·62	68	60·25	63·5
" 28th.	29·966	67·7	77·27	75·83	77·41	70·5	60·54	64·25
" 29th.	29·955	62·46	64·91	66·37	68·5	63·79	60·2	65·5
" 30th.	29·995	58·95	59·41	58·7	59·79	59·21	59·83	57
Mean for Aug. & Sept.	29·954	61·32	63·04	64·11	64·38	61·45	60·31	59·22

OBSERVATORY.

SAUSALITO, CALIFORNIA.

DAILY MEANS CONTINUED.

1841.	Barometer.	THERMOMETERS.						
		Att.	Black Bulb.	Black Wool.	White Wool.	No Wool.	Water.	Mast-head.
Oct. 1st.	30·042	59·91	60·54	61·79	62·04	60·04	60·2	57
" 2d.	30·106	59·5	58·62	61·58	62·62	60·37	59·42	57
" 3d.	30·134	57·91	60·16	62·91	63·16	58·96	60·37	58
" 4th.	30·029	56·79	58·95	60·58	60·46	56·96	59·54	56·5
" 5th.	29·933	61·41	63·62	67·29	67·38	62·69	60·16	62
" 6th.	29·973	66·7	70·16	75·71	75·25	67·87	60·96	62·25
" 7th.	29·972	68·41	70·96	56·1	71·75	69·29	61·08	65·25
" 8th.	29·940	62·08	61·87	63·25	63·08	61·46	60·66	58·75
" 9th.	29·934	59·66	58·75		60·58	58·83	59·5	57
" 10th.	29·900	58·04	57·12	56·83	58·21	56·75	60·04	57·75
" 11th.	29·928	56·79	57·66	59·21	59·79	56·46	59·54	54
" 12th.	29·927	57·29	58·04	59·58	60·54	56·75	59·79	57
" 13th.	29·953	55·54	54·5	54·5	55·29	54·29	59·54	51·75
" 14th.	30·162	61·83	61·12	62·95	63·83	60·29	59·83	57
" 15th.	30·159	61·58	60·87	63·08	61·71	59·62	59·66	59
" 16th.	30·041	61·75	62·91	67·29	65·71	60·54	59·87	58·25
" 17th.	29·958	61·5	63·87	69	66·83	61·08	60·12	59·5
" 18th.	29·963	65·62	73	79·43	77	68·65	60·33	61·5
" 19th.	29·975	69·96	73·58	78·33	76·87	71·87	60·54	66·25
" 20th.	30·029	68·46	74·08	79·04	77·79	72·88	61	65
" 21st.	30·091	61·21	64·37	67·41	67·25	63·12	60·54	
" 22d.	30·089	59·3	61·95		62·61	59·78	60·83	
Mean for Oct.	30·011	61·42	63·03	65·29	65·44	61·75	60·16	59·03
Mean for Aug. and Sept.	29·954	61·32	63·04	64·11	64·38	61·45	60·31	59·22
Gen. Mean.	29·982	61·37	63·03	64·7	64·91	61·6	60·23	59·12

RESULTS.

BAROMETER.

Mean of 61 days,	29·982
Highest mean,	30·162
Lowest mean,	29·853
Highest point,	30·216
Lowest point,	29·800

ATTACHED THERMOMETER.

Mean of 61 days,	61·37°
Highest mean,	70·91
Lowest mean,	54·45
Highest point,	91
Lowest point,	47

THERMOMETER WITH BLACK BULB.

Mean of 61 days,	63·03°
Highest mean,	77·27
Lowest mean,	54·12
Highest point,	115
Lowest point,	44

THERMOMETER WITH BLACK WOOL.

Mean of 59 days,	64·7°
Highest mean,	79·43
Lowest mean,	53·46
Highest point,	133
Lowest point,	41

OBSERVATORY.

SAUSALITO, CALIFORNIA.

RESULTS CONTINUED.

THERMOMETER WITH WHITE WOOL.

Mean of 61 days,	64·91°
Highest mean,	79·65
Lowest mean,	55·29
Highest point,	131
Lowest point,	44

THERMOMETER WITHOUT WOOL.

Mean of 61 days,	61·6°
Highest mean,	72·88
Lowest mean,	54·04
Highest point,	124
Lowest point,	46

TEMPERATURE OF WATER.

Mean of 51 days,	60·23°
Highest mean,	61·83
Lowest mean,	58·46
Highest point,	65
Lowest point,	56

THERMOMETER AT MAST-HEAD.

Mean of 59 days,	59·12°
Highest mean,	66·25
Lowest mean,	53
Highest point,	84
Lowest point,	50

U. S. SHIP VINCENNES.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 23.												
1 A. M.			66°	61°				S. W.	1	Over-cast.	f.	
2 "			64	61								
3 "			61	61		29·920	58° 49°					
4 "			60	61								
5 "			60	61								
6 "			57	61							F.	
7 "			55	61					2			
8 "			57	61								
9 "	Sausalito Harbour.		58	61		29·900	60° 50°					
10 "			59	61								
11 "			61	61					3			
12 "			61	61							f.	
1 P. M.			63	60					2			
2 "			62	60								
3 "			62	60		29·900	68° 50°					
4 "			60	60								
5 "			60	60								
6 "			59	60								
7 "			58	60								
8 "			57	60								
9 "			54	60		29·900						
10 "			53	59				Var.	1			
11 "			52	59								
12 "			51	59				S. W.	2			
Mean.			58·75	60·39		29·905						

U. S. SHIP VINCENNES.

SAN FRANCISCO, CALIFORNIA.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 24.												
1 A. M.			51°	60°				S. W.	3	Over-	F.	
2 "			51	60					5	cast.		
3 "			51	60		30·000	Mist.					
4 "			51	60					2			
5 "			51	60				South.				
6 "			50	60								
7 "			50	60				S. S. W.				
8 "			51	60				S. W.			f.	
9 "			53	60		30·100	Mist.		3			
10 "			53	60							b. m.	
11 "			56	61								
12 "			59	61						Clear.	b.	
1 P. M.			59	61					2			
2 "			59	61								
3 "			60	60		30·100						
4 "			64	60								The party from Columbia River arrived.
5 "			60	60					3	Cum.	b. c.	
6 "			59	60								
7 "			58	60							b. c. m.	
8 "			57	60								
9 "			56	59		30·080	Mist.				f.	
10 "			56	59					4			
11 "			54	59					2			
12 "			54	59					5			
Mean.			54·91	60		30·070						
Oct. 25.												
1 A. M.			54°	59°				S. W.	3	Cir.cum	f.	
2 "			54	59								
3 "			55	59		30·080	Mist.					
4 "			55	59								
5 "			57	59								
6 "			58	59					2	Stratus.	c.	
7 "			58	59								
8 "			62	60					4			
9 "			62	60		30·100						
10 "			62	60				S. S. W.				
11 "			59	60				S.W by S.	5			
12 "			59	60								
1 P. M.			60	60						Over-		
2 "			59	60						cast.	c. m.	
3 "			59	60		30·100	Mist.		6		f.	
4 "			59	60								
5 "			56	60				S. W.				
6 "			54	60								
7 "			55	60					5		f. d.	
8 "			55	59								
9 "			55	59		30·100	Rain.					
10 "			55	59							f. q.	
11 "			55	59								
12 "			55	59					3		c. q.	
Mean.			57·16	59·5		30·095						

Sausalito Harbour.

Sausalito Harbour.

U. S. SHIP VINCENNES.

SAN FRANCISCO, CALIFORNIA.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 26.												
1 A. M.			55°	58°				S. W.	3	Over-	o.	
2 "			55	58						cast.		
3 "			56	58		30·080			2			
4 "			57	58				S. S. W.				
5 "			57	59				South.				
6 "			57	59						Cir. stra.	c.	
7 "			56	59								
8 "			57	59				S. E.	3			
9 "			59	60		30·100						
10 "			59	60								
11 "			60	60				S. S. E.				Boats surveying.
12 "			60	60					4			
1 P. M.			60	60				South.				
2 "			60	60				S. by E.	5			
3 "	Sausalito Harbour.		60	60		30·100	Mist.	S. S. W.			c. m.	
4 "			60	60					7			
5 "			59	60								
6 "			59	60					6			
7 "			59	60				South.		Nimbus		
8 "			59	60								
9 "			58	60		30·100	Mist.	S. S. E.	7	Over-	o. m.	
10 "			57	60					5	cast.		
11 "			56	60								
12 "			56	60					6		o. r.	
Mean.			57·96	59·33		30·095						
Oct. 27.												
1 A. M.			51°	57°				S. S. E.	5	Over-	r.	
2 "			51	57						cast.		
3 "			52	57	54°	30·100	Rain.		2			
4 "			52	57							r.	
5 "			52	58					3			
6 "			52	58								
7 "			56	58								
8 "			56	58				South.		Cir. stra.	c.	
9 "			59	58	57°	30·080						
10 "			59	59					4		b. c.	
11 "			59	59								
12 "			61	59								
1 P. M.			60	59					3			
2 "			60	59								
3 "			58	59	57°	30·090						
4 "			58	59					2			
5 "	Sausalito Harbour.		56	59						Clear.	b.	
6 "			55	59								
7 "			55	59							b. w.	
8 "			54	58				Calm.	0			
9 "			54	58	53°	30·100	54° 50°					
10 "			52	58								
11 "			51	59								
12 "			51	59								
Mean.			55·16	58·33	55·25	30·092						

U. S. SHIP VINCENNES.

SAN FRANCISCO, CALIFORNIA.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 28.												
1 A. M.			52°	58°				Calm.	0	Clear.	b. w.	
2 "			52	58								
3 "			50	58	52°	30·100						
4 "			50	58								
5 "			48	58							b.	
6 "			48	59								
7 "			49	59								
8 "			53	59				Var.	1			
9 "			56	60	55°	30·120	60° 50°					
10 "			58	59				S. W.	2			Boats surveying.
11 "			61	59								
12 "			60	59								
1 P. M.			62	60					3			
2 "			59	60				S. S. W.				
3 "			62	60		30·120	65° 50°		5			
4 "			60	60								
5 "			58	59				S. W.				
6 "			58	59				W. S. W.				
7 "			57	59					6			
8 "			56	59							b. q.	
9 "			56	59	55°	30·180	58° 48°	West.	5			
10 "			57	59				W. N. W.	8			
11 "			57	59					5			
12 "			57	59								
Mean.			55·66	59	54	30·130						
Oct. 29.												
1 A. M.			55°	59°				N. W.	5	Clear.	b.	
2 "			55	59								
3 "			55	59	55°	30·180	58° 50°					
4 "			55	59				W. N. W.	4			
5 "			55	59								
6 "			55	59				S. W.	2			
7 "			55	59					3			
8 "			55	58				West.				
9 "			55	58	54°	30·180	60° 52°		4			
10 "			56	58				N. W.				Brought the instruments from the Observatory.
11 "			58	59				W. N. W.				
12 "			60	59				N. W.				
1 P. M.			61	59								
2 "			61	59								
3 "			62	59	60°	30·180	62° 48°		3			
4 "			61	59								
5 "			57	59								
6 "			56	59					2			
7 "			56	59				West.				
8 "			56	59								
9 "			55	59	54°	30·140	56° 50°					
10 "			54	59					3			
11 "			54	59								
12 "			54	59								
Mean.			56·5	58·87	55·75	30·170						

Sausalito Harbour.

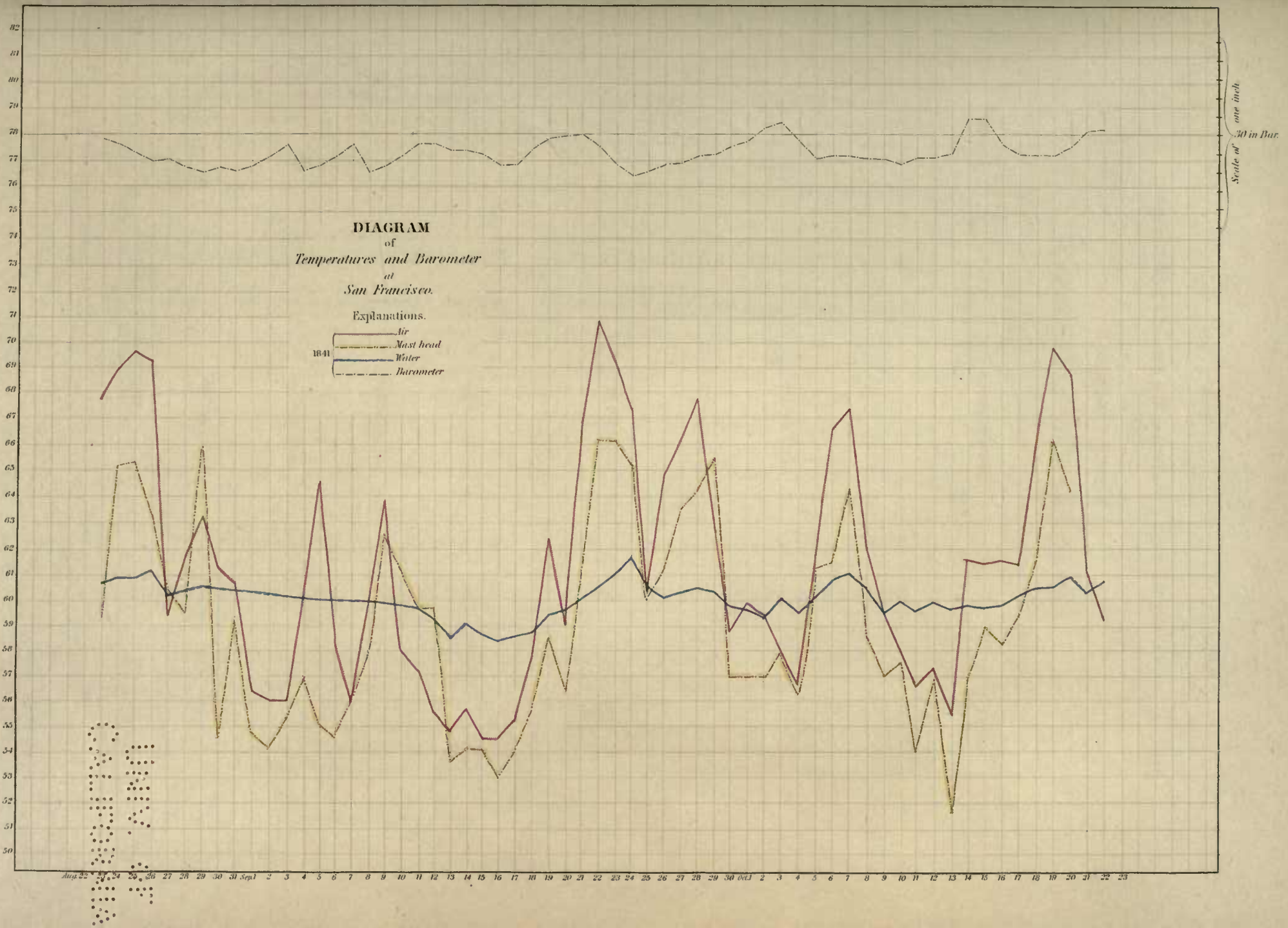
DIAGRAM
of
Temperatures and Barometer
at
San Francisco.
Explanations.
1841
Air
Mast head
Water
Barometer
Scale of one inch
30 in Bar.
82 81 80 79 78 77 76 75 74 73 72 71 70 69 68 67 66 65 64 63 62 61 60 59 58 57 56 55 54 53 52 51 50
Aug. 22 23 24 25 26 27 28 29 30 31 Sept. 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 Oct. 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

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CALIFORNIA

U. S. SHIP VINCENNES.

SAN FRANCISCO, CALIFORNIA.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Oct. 30.												
1 A. M.			54°	59°				W.N.W.	3	Clear.	b. w.	
2 "			54	59								
3 "			54	59	53°	30·120	55° 50°					
4 "			54	59					4			
5 "			53	58								
6 "			53	58							b.	
7 "			55	58								
8 "			57	58				S.W.				
9 "	Sausalito Harbour.		61	59	60°	30·140	62° 48°					
10 "			63	59								
11 "			62	59								
12 "			64	59					3			
1 P. M.			62	59					4			
2 "			62	59								
3 "			61	58	59°	30·140	65° 48°					
4 "			61	58				S. S. W.				
5 "			57	58				S. W.				
6 "			56	58				W. S. W.				
7 "			55	58							b. w.	
8 "			54	58								
9 "			54	58	54°	30·140	58° 50°		2			
10 "			54	58				S. W.				
11 "			52	59								
12 "			51	59				Calm.	0			
Mean.			56·79	58·5	56·5	30·135						
Oct. 31.												
1 A. M.			50°	58°				Calm.	0	Clear.	b. w.	
2 "			50	58								
3 "			49	57	58°	30·180	56° 50°					
4 "			49	57								
5 "			49	58							b.	
6 "			49	58								
7 "			49	58								
8 "			52	58								
9 "			58	58	58°	30·200	60° 50°					
10 "			60	59								
11 "	Sausalito Harbour.		60	59				N. E.	2			
12 "			61	59					1			Got under way, with the squadron.
1 P. M.			61	59				Calm.	0			
2 "			61	59								
3 "			61	59		30·200	66° 56°	Wd.	1			
4 "			60	59								Beating out of the Bay of San Francisco.
5 "			60	58								
6 "			60	58					2			
7 "			60	58				Calm.	0	Cir. stra.	b. c.	Anchored in 6¼ fms. water, outside the bar.
8 "			60	58						Over-	o.	
9 "			57	58	54°	30·220				cast.		
10 "			57	58							F.	
11 "			56	57								
12 "			56	57								
Mean.			56·04	58·12	56·66	30·200						

U. S. SHIP VINCENNES.

FROM SAN FRANCISCO TO HONOLULU.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 1.												
1 A. M.			56°	57°				Calm.	0	Over-cast.	F.	Heavy rollers in 7 fathoms water.
2 "			56	57								
3 "			56	57		30·200						
4 "			56	57								Shipped a sea.
5 "			56	57								
6 "			56	57								
7 "			56	57								
8 "			57	57				Nd.	1			
9 "			57	58		30·160						
10 "			57	58				N. Ed.				Got under way, steering to the southward.
11 "			59	58								
12 "			59	58							f.	
1 P. M.			59	58								
2 "			58	58								
3 "			58	58		30·160				Clear.	b.	The Porpoise and Oregon in company.
4 "			57	59				West.	2			
5 "			55	59								
6 "			55	59					4			Land in sight to the eastward.
7 "			56	56						Cum. st.	b. c.	
8 "			56	56								Course S. by E.
9 "			56	55	54°	30·160		W. N. W.				
10 "			55	57								
11 "			55	58								
12 "			55	58				N. W.				
Mean.			56·5	57·46	54	30·170						
Nov. 2.												
1 A. M.			57°	59°				N. N. W.	4	Over-cast.	o.	Course S. by E.
2 "			57	58								
3 "			56	58	54°	30·040		N. by W.			f.	
4 "			56	58								
5 "			56	58				NW. by N	5	Cum. st.	c.	
6 "			56	58								Steering to the northward and eastward.
7 "			56	58								
8 "			56	58								
9 "			58	56	55°	30·000						
10 "			59	57						Clear.	b. m.	Saw a fin-back whale.
11 "			58	57				W. N. W.	4			Land in sight to the eastward.
12 "	36° 28′	122° 20′	59	57								
1 P. M.			60	58								The Porpoise and Oregon in company.
2 "			59	58								
3 "			59	58		30·000		W. by N.				
4 "			58	58								
5 "			57	58					2			Steering to the southward and westward.
6 "			57	58								
7 "			57	58								
8 "			57	58							b. w.	
9 "			56	58	53°	30·000		N. W.	3			
10 "			56	58								
11 "			56	58								
12 "			56	58							f.	
Mean.			57·16	57·83	54	30·010						

U. S. SHIP VINCENNES.

FROM SAN FRANCISCO TO HONOLULU.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 3.												
1 A. M.			55°	58°				W. N. W.	2	Foggy.	F.	Hove to.
2 "			55	58								Steering to the southward and westward.
3 "			55	58	54°	30·040						
4 "			55	58					4			
5 "			55	58								
6 "			55	58								
7 "			55	58								
8 "			55	58								
9 "			56	58	55°	30·000						The Oregon in company.
10 "			56	58								
11 "			57	58					3			
12 "	36° 19′	123° 20′	56	58								
1 P. M.			55	58								
2 "			56	58				West.			f.	Swell from the northward and westward.
3 "			58	58	57°	30·000		W. by S.	2			
4 "			56	58								
5 "			56	58								
6 "			55	58				S. W.		Clear.	b. m.	Steering to the southward and eastward.
7 "			56	58					3			
8 "			56	58								
9 "			57	58	55°	30·000			2	Cir.cum	b. c. m.	
10 "			57	59								
11 "			57	59								
12 "			57	59						Over-cast.	o.	
Mean.			55·87	58·12	55·25	30·010						
Nov. 4.												
1 A. M.			59°	59°				S. W.	2	Over-cast.	o.	Steering to the southward.
2 "			59	59								
3 "			59	59	54°	30·000						
4 "			59	59							o. f.	
5 "			59	59								
6 "			59	59					3			
7 "			59	59						Stratus.	c.	
8 "			59	59				West.				The Oregon in company.
9 "			60	60	58°	30·120		NW. by N	5	Nimbus	c. d.	
10 "			58	60								
11 "			57	60					7			
12 "	34° 45′	123° 09′	57	60				N. W.	8			
1 P. M.			56	60								
2 "			56	60								
3 "			56	60	54°	30·000						
4 "			56	60				N. N. W.	7			
5 "			55	60							c.	Course S. W. by S.
6 "			55	60						Cir.cum		
7 "			55	62					6			
8 "			55	62								
9 "			56	62	58°	30·080						
10 "			57	62					5			
11 "			58	62						Clear.	b.	
12 "			58	62								
Mean.			57·38	60·16	56	30·050						

U. S. SHIP VINCENNES.

FROM SAN FRANCISCO TO HONOLULU.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 5.												
1 A. M.			57°	60°				N. by W.	5	Clear.	b. w.	Course S. W. by S.
2 "			57	60								
3 "			57	60	55°	30·100						
4 "			57	60								
5 "			57	60								
6 "			57	60				N. N. W.	7			
7 "			57	62								
8 "			57	63						Cum. st.	b. c.	
9 "			57	63	57°	30·160	58° 50°		8			Swell from the northward.
10 "			57	63								
11 "			57	60								
12 "	32° 11′	126° 05′	57	60				N. W.				
1 P. M.			62	63					6			
2 "			61	63								
3 "			57	63	58°	30·120	60° 52°	NW by W				
4 "			58	63								
5 "			59	65				W. by N.				
6 "			55	65					8			
7 "			59	66						Clear.	b.	
8 "			59	66								
9 "			59	66	58°	30·200	60° 48°					
10 "			58	66							b. q.	
11 "			57	66								
12 "			57	66						Cir. stra.	b. c. q.	
Mean.			57·71	62·79	57	30·145						
Nov. 6.												
1 A. M.			60°	66°				N. N. W.	8	Cir. stra.	b. c.	Course S. W. by S.
2 "			60	66								
3 "			60	66	58°	30·200	60° 50°					
4 "			60	66					7		b. c. q.	
5 "			59	66								
6 "			59	66								
7 "			59	66					8			
8 "			61	66								
9 "			62	66	61°	30·300	62° 52°			Clear.	b. q.	
10 "			61	66					7			
11 "			61	66								Water deep blue.
12 "	29° 29′	129° 09′	62	66								
1 P. M.			64	67								
2 "			64	67						Cum. st.	b. c. q.	
3 "			64	67		30·260	64° 54°					
4 "			63	67								Tropical birds about the ship.
5 "			63	67				North.				
6 "			63	67					6			
7 "			62	67				N. by W.				
8 "			62	67								
9 "			65	68	63°	30·260	65° 54°	N. N. E.				
10 "			65	68								
11 "			65	68								
12 "			65	68								
Mean.			62·04	66·66	60·66	30·255						

U. S. SHIP VINCENNES.

FROM SAN FRANCISCO TO HONOLULU.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 7.												
1 A. M.			65°	67°				N. by W.	6	Over-	o.	Course S. W. by S.
2 "			65	67						cast.	o. p. d.	
3 "			64	68	64°	30·240						
4 "			62	68				NW. by N			o.	
5 "			64	68								
6 "			64	68						Cir. stra.	c.	
7 "			65	68								
8 "			64	68								
9 "			66	68	65°	30·260	64° 55°	North.				
10 "			66	68								Water deep blue.
11 "			67	69				N. N. E.	5			
12 "	27° 01′	131° 47′	67	69								
1 P. M.			66	69						Cum. st.	b. c.	
2 "			65	69				N. E.				
3 "			65	69	64°	30·280	65° 54°		4			Took the northeast
4 "			66	69				N. N. E.	5			trades.
5 "			66	69								
6 "			66	69				N. E. by N				
7 "			66	69								
8 "			66	69				N. by E.				
9 "			66	69	65°	30·280	67° 50°					
10 "			66	69								
11 "			67	69								Water slightly phos-
12 "			67	69				N. N. W.				phorescent.
Mean.			65·46	68·5	64·5	30·265						
Nov. 8.												
1 A. M.			67°	69°				NW. by N	4	Cum. st.	b. c.	Course S W. by S.
2 "			67	69								
3 "			67	69	65°	30·300	66° 54°		5			
4 "			67	69								
5 "			67	69				North.				
6 "			68	69								
7 "			69	70								
8 "			68	70				N. E.				
9 "			68	70	70°	30·300	70° 52°					
10 "			69	71						Cum.	b. c.	
11 "			69	71				N. E. by E.				
12 "	25° 03′	134° 02′	69	71								
1 P. M.			70	71					4			Water deep blue.
2 "			69	71								
3 "			69	70	66°	30·290	68° 50°	N. E.				
4 "			68	70								
5 "			68	70						Cum. st.		
6 "			68	70								
7 "			68	70								
8 "			67	70								
9 "			67	71	65°	30·260	68° 54°					
10 "			67	71							d.	
11 "			66	71							b. c.	
12 "			67	71								
Mean.			67·87	70·12	66·5	30·287						

U. S. SHIP VINCENNES.

FROM SAN FRANCISCO TO HONOLULU.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 9.												
1 A. M.			66°	71°				N.E.by N	4	Cum.	b. c.	Course S. W. by S.
2 "			67	71								
3 "			66	71	64°	30·280						
4 "			66	71								
5 "			68	71				N. N. E.		Clear.	b.	
6 "			69	71								
7 "			69	71								
8 "			69	71								Long swell from the
9 "			69	71	70°	30·240	70° 60°					northward.
10 "			69	72				N. E.				
11 "			70	72						Cum. st.	b. c.	
12 "	23° 15	136° 03′	70	71								
1 P. M.			71	71								
2 "			70	71								
3 "			69	71	79°	30·260	74° 60°			Nimbus		
4 "			69	71								
5 "			69	72				N.E.by N			p.	
6 "			69	72							b. c.	
7 "			69	71					5			
8 "			69	71								
9 "			69	72	68°	30·260	70° 58°	E. N. E.				
10 "			69	72							p. d.	
11 "			69	72							b. c.	
12 "			69	72						Cum. st.		
Mean.			68·71	71·33	70·25	30·260						
Nov. 10.												
1 A. M.			69°	72°				E. N. E.	6	Cum.	b. c.	Course S. W. by S.
2 "			68	72								
3 "			68	73	74°	30·280	72° 68°					
4 "			69	73								
5 "			69	73								
6 "			71	73								
7 "			71	73					5			
8 "			73	74								
9 "			74	74	75°	30·280	74° 60°		6			
10 "			75	74						Cum. st.		Water deep blue.
11 "			74	74								
12 "	21° 10′	138° 32′	74	74								
1 P. M.			73	73								
2 "			73	73								Course W. by S.
3 "			73	73	72°	30·100	73° 60°				b. c. m.	
4 "			73	73					1			
5 "			71	73								
6 "			71	73				E. by N.			b. c.	
7 "			72	73								
8 "			71	73								
9 "			72	73						Cum.		
10 "			72	73								A number of meteors
11 "			72	73					5			seen.
12 "			72	73								
Mean.			71·66	73·12	73·66	30·220						

U. S. SHIP VINCENNES.

FROM SAN FRANCISCO TO HONOLULU.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 11.												
1 A. M.			71°	73°				E. N. E.	4	Nimbus	b. c.	Course W. by S.
2 "			71	73								
3 "			71	73	70°	30·260	72° 60°					Several meteors seen.
4 "			70	73								
5 "			71	74								
6 "			72	74				E. by N.				
7 "			72	74					5			
8 "			73	74								
9 "			74	74	71°	30·100	76° 60°			Clear.	b.	
10 "			74	74								
11 "			74	74								
12 "	21° 02′	141° 38′	74	74				N. E.				
1 P. M.			73	73								
2 "			74	73								
3 "			72	73	71°	30·140	76° 68°					Sea deep blue.
4 "			72	73								
5 "			72	73					6			
6 "			72	73					5			
7 "			71	73								
8 "			71	73						Nimbus	c. u.	
9 "			69	73	66°	30·220	Rain.	E. N. E.			d.	
10 "			69	73								
11 "			69	73								
12 "			70	73						Cum.	b. c.	
Mean.			71·71	73·33	69·5	30·180						
Nov. 12.												
1 A. M.			70°	73°				E. N. E.		Nimbus	c. p.	Course W. by S.
2 "			70	74								
3 "			70	74	69°	30·240	70° 62°					
4 "			69	74								
5 "			69	74								
6 "			69	74				N. E.		Cum. st.	b. c.	
7 "			70	74								
8 "			71	74								
9 "			71	74	72°	30·220	74° 62°					
10 "			74	74				E. N. E.		Cum.		
11 "			73	74								
12 "	20° 51′	145° 03′	73	74								Water deep blue.
1 P. M.			74	75								
2 "			74	75								
3 "			73	75	72°	30·120	74° 60°			Nimbus	c. p. d.	
4 "			73	75				N. E.				
5 "			72	75								
6 "			71	75							b. c.	
7 "			71	75						Clear.	b.	
8 "			71	75								
9 "			71	75	72°	30·120	76° 63°			Nimbus	c.	
10 "			72	76						Clear.	b.	
11 "			74	76								
12 "			73	76								
Mean.			71·5	74·58	71·25	30·175						

U. S. SHIP VINCENNES.

FROM SAN FRANCISCO TO HONOLULU.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 13.												
1 A. M.			73°	76°				N.E.byE.	6	Clear.	b.	Course W. by S.
2 "			73	76								
3 "			73	76	72°	30·160	73° 60°					
4 "			73	76								
5 "			74	76					5			
6 "			74	76						Cum.	b. c.	
7 "			75	76				E. by N.				Heavy irregular sea from the N. E.
8 "			77	76								
9 "			75	76	75°	30·200	79° 69°					
10 "			75	76								
11 "			74	76					4			Tropic birds seen.
12 "	20° 45′	148° 28′	74	76						Clear.	b.	
1 P. M.			76	76								Water deep blue.
2 "			76	76				N.E.byE.				
3 "			76	76	73°	30·060						
4 "			74	76								Caught a golden plover.
5 "			74	76								
6 "			73	76								Course S. W. by W.
7 "			73	76						Cum. st.	b. c.	
8 "			73	76					5			
9 "			68	75	66°	30·140	Rain.				p.	
10 "			68	75						Nimbus	c.	
11 "			70	75					4			
12 "			70	75								
Mean.			73·37	75·83	71·5	30·140						
Nov. 14.												
1 A. M.			72°	76°				N.E.byE.	4	Nimbus	c.	Course S. W. by W.
2 "			72	76								
3 "			72	76	71°	30·220	Rain.			Over-cast.	o. p.	
4 "			72	76								
5 "			72	76								
6 "			72	76					3			Heavy swell from N.E.
7 "			76	76				E. by N.			o.	
8 "			76	76								
9 "			76	76	76°	30·040	79° 69°					Course W. by S.
10 "			76	76						Nimbus	b. c.	
11 "			77	77								
12 "	20° 08′	150° 50′	77	77								
1 P. M.			77	77								
2 "			77	77								Course W. by S ½ S.
3 "			76	77	75°	30·040						
4 "			75	76								
5 "			75	76				E. N. E.				Some birds seen.
6 "			75	77								
7 "			73	77								
8 "			73	77					4		p. d.	
9 "			74	77	74°	30·100	Rain.					
10 "			72	77								
11 "			72	76								
12 "			72	76							b. c.	
Mean.			74·21	76·42	74	30·100						

U. S. SHIP VINCENNES.

FROM SAN FRANCISCO TO HONOLULU.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Diree.	Force.	Clouds.	Weather.	Remarks.
Nov. 15.												
1 A. M.			72°	76°				E. ½ N.	4	Nimbus	c. q. p.	Course W. ½ S.
2 "			69	76								
3 "			72	76	71°	30·120						
4 "			70	76							p. d.	
5 "			71	76				E. N. E.				
6 "			71	76								
7 "			71	76					5			
8 "			72	76						Cum. st.	b. c.	Water deep blue.
9 "			73	76	73°	30·100	74° 68°					
10 "			75	76				E. by N.				
11 "			76	76					6			
12 "	20° 07′	153° 33	76	76								
1 P. M.			77	77					5	Nimbus		
2 "			72	77							p. d.	
3 "			73	77	74°	30·100	76° 68°				c.	Course W. by N.
4 "			75	77				E. N. E.				
5 "			74	77					4		p. d.	
6 "			73	77								
7 "			73	77							c.	
8 "			72	77					5			
9 "			74	76	73°	30·200	76° 70°					
10 "			74	75						Cum. st.		
11 "			74	76								
12 "			74	76							c. p.	
Mean.			73·04	76·29	72·75	30·130						
Nov. 16.												
1 A. M.			75°	77°				N.E.byE.	5	Cum. st.	c. p.	Conrse W. by N.
2 "			73	77								
3 "			73	77	71°	30·200	Rain.					
4 "			71	77								
5 "			70	77								
6 "			70	77								
7 "			71	77					6		b. c.	
8 "			74	77								Island of Maui in sight to the S. W.
9 "			76	77	74°	30·100	74° 68°	East.				
10 "			76	76					7			Water deep blue.
11 "			77	77								
12 "			77	77				E. by S.				
1 P. M.			75	76					6			
2 "			75	76								
3 "			75	76	74°	30·100		N.E.byN.				
4 "			75	76								
5 "			76	76								Molokai, Maui, and others of the Sandwich Islands in sight.
6 "			76	76				N. E.				
7 "			76	77					5			
8 "			76	77						Clear.	b. w.	
9 "			75	77	74°	30·140	76° 68°					
10 "			75	78					6			
11 "			75	78								
12 "			75	78								
Mean.			74·46	76·83	73·25	30·135						

Sandwich Islands.

U. S. SHIP VINCENNES.

HONOLULU, SANDWICH ISLANDS.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 17.												
1 A. M.			74°	76°				N. E.	6	Cum. in horizon.	b. c.	Steering to the S. W.
2 "			74	76								
3 "			73	76	71°	30·200	74° 69°					
4 "			73	76								
5 "			74	77					2		c. q.	
6 "			75	78				N. N. E.	7			Molokai and Oahu in sight to the westward.
7 "			76	78								
8 "			77	78								
9 "			77	78	76°	30·200	76° 68°		5			
10 "			78	78				N. E.				Anchored off Honolulu, in 15 fathoms water.
11 "			78	78						Clear.	b.	
12 "			78	78								
1 P. M.			78	78								
2 "			78	78								The Porpoise arrived.
3 "			77	78	76°	30·100			6			
4 "			78	78								
5 "			76	77						Cum. st.	c.	The Flying-Fish arrived.
6 "			75	77								
7 "			75	77								
8 "			75	77								
9 "			75	77	72°	30·200	76° 68°				c. q. l.	
10 "			74	77					4			
11 "			73	77								
12 "			73	77								
Mean.			75·58	77·29	73·75	30·175						
Nov. 18.												
1 A. M.			74°	77°				N. E.	4	Cum. st.	c. l.	
2 "			74	77								
3 "			73	77	73°	30·100	74° 66°					
4 "			73	77								
5 "			73	77				E. N. E.		Nimbus		
6 "			74	77								
7 "			74	77								
8 "			75	77								
9 "			76	77		30·160			6		c. q. p.	
10 "			79	77					7			
11 "			78	77					6			
12 "			78	77								
1 P. M.			79	78								
2 "			79	78								
3 "			78	78	75°	30·140	75° 68°					Saw several rainbows.
4 "			78	78								
5 "			77	78							c.	
6 "			76	78					5			The Oregon arrived.
7 "			76	78								
8 "			75	78								
9 "			75	78	74°	30·140	76° 69°					
10 "			75	78								
11 "			75	78								
12 "			74	78								
Mean.			75·75	77·5	74	30·135						

Off Honolulu.

U. S. SHIP VINCENNES.

HONOLULU, SANDWICH ISLANDS.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 19.												
1 A. M.			74°	77°				N. E.	4	Cum. st.	b. c.	
2 "			74	77								
3 "			74	77	72°	30·120	74° 66°					
4 "			74	77								
5 "			74	77								
6 "			74	76						Nimbus	b. c.	
7 "			74	76						over		
8 "			76	77						the land		
9 "	Honolulu Harbour.		79	77	79°	30·140	80° 70°		5			Shifted our anchorage to the inner harbour.
10 "			79	77								
11 "			79	77								
12 "			81	76						Clear.	b.	
1 P. M.			81	77								
2 "			81	77								
3 "			82	77	80°	30·140	78° 68°	E. N. E.				
4 "			82	78								
5 "			76	78					3			
6 "			76	78								
7 "			76	78							b.	
8 "			76	78								
9 "			75	77	73°	30·130		E. by N.	2			
10 "			73	77						Cum.	b. c.	
11 "			73	76								
12 "			73	76								
Mean.			76·5	77	76	30·132						
Nov. 20.												
1 A. M.			72°	76°				E. by N.	2	Cum.	b. c.	
2 "			72	76								
3 "			72	76	71°	30·140	78° 68°				b. c.	
4 "			72	77								
5 "			73	77								
6 "			73	77							b. c.	
7 "			76	79								
8 "			77	79						Clear.	b.	
9 "			79	79	77°	30·120	80° 68°	N. E.	4			
10 "	Honolulu Harbour.		80	77						Cir.cum	b. c.	
11 "			82	77								
12 "			84	77								
1 P. M.			84	77								
2 "			81	77								
3 "			81	77		30·120	80° 68°			Clear.		
4 "			80	77					5			
5 "			78	77								
6 "			75	77								
7 "			74	77							b.	
8 "			74	77								
9 "			74	77	72°	30·140			4	Nimbus	c.	
10 "			75	77								
11 "			74	77								
12 "			74	77								
Mean.			76·5	77·12	73·33	30·130						

U. S. SHIP VINCENNES.

HONOLULU, SANDWICH ISLANDS.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 21.												
1 A. M.			74°	77°				E. N. E.	4	Nimbus	c.	Clouds hanging over the land.
2 "			74	77								
3 "			74	77	72°	30·140	78° 66°					
4 "			74	77							c. p.	
5 "			74	77								
6 "			74	77								
7 "			74	77								
8 "			74	77				N.E.by N			b. c.	
9 "			74	77	74°	30·140						
10 "			74	76				N. E.	5			
11 "			77	76								
12 "			82	76						Clear.	b.	
1 P. M.			83	76								
2 "			82	76								
3 "			81	77	80°	30·140	Rain.			Nimbus	b. c. p.	
4 "			79	77				E. N. E.				
5 "			76	77								
6 "			76	77					3			
7 "			74	77								
8 "			74	77							b. c.	
9 "			75	76		30·140						
10 "			75	76								
11 "			74	76					2			
12 "			73	76								
Mean.			75·87	76·62	75·33	30·140						
Nov. 22.												
1 A. M.			74°	76°				E. N. E.	2	Nimbus	b. c.	
2 "			74	76						over the		
3 "			74	76	72°	30·140	76° 60°			land.		
4 "			74	76								
5 "			74	76					4			
6 "			74	76								
7 "			73	76				N. E.				
8 "			76	76						Clear.	b.	
9 "			80	76	78°	30·140		N.E.by N				
10 "			82	76								
11 "			85	76						Cum. st.	b. c.	
12 "			81	76								
1 P. M.			81	78								
2 "			83	78								
3 "			81	78		30·140						
4 "			79	77					3			
5 "			77	77						Clear.	b.	
6 "			76	77								
7 "			75	77								
8 "			74	77								
9 "			74	75	73°	30·140	78° 65°	East.	1			
10 "			74	75								
11 "			73	76								
12 "			72	76								
Mean.			76·66	76·37	74·33	30·140						

Honolulu Harbour.

Honolulu Harbour.

U. S. SHIP VINCENNES.

HONOLULU, SANDWICH ISLANDS.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 23.												
1 A. M.			73°	76°				East.	1	Clear.	b.	
2 "			72	76								
3 "			74	76	70°	30·120	76° 64°					
4 "			74	76				Var.				
5 "			74	76				Calm.	0			
6 "			74	76								
7 "			74	76								
8 "			79	76				N.E. byN	2			
9 "			81	76	79°	30·160	80° 68°					
10 "			82	76								
11 "			83	76						Cum.	b. c.	
12 "			84	76								
1 P. M.			84	76					3			
2 "			84	76						Clear.	b.	
3 "			82	76		30·160	82° 68°					
4 "			72	76				N. E.				
5 "			78	76								
6 "			78	76						Nimbus	b. c.	
7 "			78	76						over the		Clouds hanging over
8 "			78	76						land.		the island.
9 "			78	76	76°	30·160	78° 66°		2			
10 "			77	75								
11 "			76	76								
12 "			76	75								
Mean.			78·12	75·91	75	30·150						
Nov. 24.												
1 A. M.			70°	76°				N. E.	2	Nimbus	b. c.	
2 "			70	76								
3 "			70	76	67°	30·160	78° 68°					
4 "			70	76				Calm.	0			
5 "			70	76								
6 "			70	76								
7 "			74	76								
8 "			78	76								
9 "			79	76	80°	30·160	82° 69°	N.E. byN	2	Clear.	b.	
10 "			83	76								
11 "			84	76						Cum.	b. c.	
12 "			82	76					3	Clear.	b.	
1 P. M.			83	76								
2 "			83	76								
3 "			80	76	81°							
4 "			76	76						Cum.	b. c.	
5 "			74	76								
6 "			75	76								
7 "			72	76								
8 "			73	76								
9 "			73	76	76°							
10 "			73	76					2			
11 "			72	76								
12 "			72	76								
Mean.			75·25	76	76	30·160						

Honolulu Harbour.

Honolulu Harbour.

U. S. SHIP VINCENNES.

HONOLULU, SANDWICH ISLANDS.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 25.												
1 A. M.			70°	76°				N. E.	2	Cum.	b. c.	
2 "			69	76								
3 "			67	76	77°							
4 "			67	76					1	Clear.	b.	
5 "			67	76				Calm.	0			
6 "			67	76								
7 "			68	76								
8 "			70	76								
9 "	Honolulu Harbour.		73	76	79°	30·160	83° 70°	N. E.	2			
10 "			80	76								
11 "			84	76								
12 "			86	76								
1 P. M.			84	76								
2 "			84	76								
3 "			84	76	84°	30·140	83° 70°		4			
4 "			77	76								
5 "			76	76								
6 "			74	76								
7 "			74	76								
8 "			73	76					2			Number of porpoises
9 "			72	76	72°	30·160	78° 66°			Cum. st.	b. c.	in the harbour.
10 "			72	76								
11 "			72	76								
12 "			72	76								
Mean.			74·25	76	75·5	30·153						
Nov. 26.												
1 A. M.			72°	76°				N. E.	2	Cum. st.	b. c.	
2 "			72	76								
3 "			71	76	70°	30·160	76° 68°					
4 "			71	76								
5 "			71	76				Calm.	0	Nimbus		
6 "			74	76								
7 "			76	76								
8 "			78	76								
9 "			78	76	78°	30·160	80° 70°					
10 "			78	76				E. N. E.	3			
11 "			79	76								
12 "			82	76						Clear.	b.	
1 P. M.			81	76					4			
2 "			81	76								
3 "			80	76		30·160						
4 "	Honolulu Harbour.		79	76						Nimbus	c.	
5 "			77	76								
6 "			74	76					3			
7 "			74	76				East.		Over-cast.	o.	
8 "			74	76								
9 "			74	76	74°	30·160	76° 68°					
10 "			75	76					1		d.	
11 "			74	76								
12 "			74	76				N. E.	3			
Mean.			75·79	76	74	30·160						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 27.												
1 A. M.			73°	76°				N. E.	3	Nimbus	c.	
2 "			73	76								
3 "			73	76	72°	30·160	76° 67°					
4 "			73	76								
5 "			73	76								Clouds hanging over the island.
6 "			74	76								
7 "			74	76								
8 "			78	76					5		b. c.	
9 "			79	76	89°	30·160						
10 "			81	76								
11 "			82	76						Clear.	b.	
12 "			82	76				N. N. E.				
1 P. M.			82	76								
2 "			84	76								
3 "			82	76		30·160	80° 68°					Got under way and went to sea, the Porpoise, Oregon, and Flying-Fish in company.
4 "			82	76								
5 "			79	76						Nimbus	c.	
6 "			76	76					4			
7 "			76	76								
8 "			76	76				N. E.				
9 "			75	77	75°	30·220	76° 60°					Course W. S. W.
10 "			75	77								
11 "			75	78								
12 "			75	78						Clear.	b.	Oahu in sight to the northward.
Mean.			77·16	76·25	76·5	30·175						
Nov. 28.												
1 A. M.			76°	77°				N.E.byE.	4	Clear.	b.	Steering to the northward.
2 "			76	77								
3 "			75	77	74°	30·200	76° 65°					
4 "			75	77								
5 "			75	77								Hove to, with the maintopsail to the mast.
6 "			75	77								
7 "			75	77				N. E.	5	Cumulus in horizon.	b. c.	
8 "			76	77								Oahu in sight to the eastward.
9 "			77	77	78°	30·160	80° 66°					
10 "			79	77								
11 "			80	78								
12 "	21° 25′	158° 35′	80	78				N.E.byE.				
1 P. M.			80	76								
2 "			80	76								
3 "			78	76	77°	30·230	80° 67°					
4 "			78	76						Clear.	b.	The Oregon and Porpoise parted company.
5 "			78	76					4			
6 "			76	76				N. E.			b. w.	
7 "			76	76								Course S. W.
8 "			76	76								
9 "			75	78	75°	30·290	76° 70°					
10 "			75	78								
11 "			75	78								
12 "			74	78								
Mean.			76·66	76·92	76	30·220						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Nov. 29.												
1 A. M.			75°	76°				N. E.	4	Clear.	b. w.	Steering to the southward and westward.
2 "			75	76								
3 "			75	76	75°	30·280	76° 69°					
4 "			75	76								
5 "			75	76				E. N. E.				
6 "			76	76					5	Nimbus	b. c.	
7 "			77	77								
8 "			77	77				N.E.byE.				
9 "			78	78	77°	30·220	80° 68°					Parted company with the Flying-Fish.
10 "			77	78								
11 "			77	78					6			
12 "	20° 26	160° 26′	77	78								
1 P. M.			77	78								
2 "			77	78								
3 "			77	78	77°	30·220	80° 70°					
4 "			76	78								
5 "			77	78								
6 "			76	78								
7 "			76	78				N. N. E.				
8 "			75	79								
9 "			77	79	74°	30·220	78° 70°					
10 "			76	79					7			
11 "			77	79								
12 "			77	79				N. E.			p.	
Mean.			76·33	77·62	75·75	30·235						
Nov. 30.												
1 A. M.			75°	78°				E. N. E.	7	Nimbus	b. c.	Course W. by S.
2 "			75	78								
3 "			75	78	74°	30·120	78° 68°					
4 "			75	78				East.				
5 "			75	78					6			
6 "			76	78								
7 "			77	78				E. by S.			b.c.p.d	
8 "			78	78								
9 "			78	78	80°	30·120	80° 68°					
10 "			78	78				E. N. E.				
11 "			79	79								
12 "	19° 02′	162° 29′	79	79					5			Water blue.
1 P. M.			79	79				E. by N.			b. c.	
2 "			80	79								
3 "			80	79	77°	30·120	80° 66°					Albatross seen.
4 "			80	79				N. E.				
5 "			79	79								
6 "			78	79						Over-cast.	o.	The Flying-Fish in company.
7 "			76	78								
8 "			76	78				E. N. E.				
9 "			77	78	75°	30·140	78° 68°			Nimbus	c.	
10 "			77	79								
11 "			77	79								
12 "			77	79								
Mean.			77·33	78·46	76·5	30·125						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 1.												
1 A. M.			76°	78°				E. by N.	5	Nimbus	c. p. d.	Course W. ¾ S.
2 "			72	78					6			
3 "			75	77	75°	30·160	78° 72°	N. E.	5			
4 "			75	77				N. N. E.				
5 "			75	77							b. c.	
6 "			75	77				N. E.				
7 "			76	77								
8 "			78	78								
9 "			80	78	80°	30·160	80° 68°	N.E.byE.		Cir.cum		
10 "			79	79								
11 "			79	79								
12 "	19° 19′	165° 25′	80	79				E. N. E.				
1 P. M.			78	79								
2 "			78	79						Nimbus	b. c. p. d.	Tropical birds seen.
3 "			78	79	77°	30·220	80° 68°		4			
4 "			77	79								
5 "			77	79								Water dark blue.
6 "			77	79				N.E.byE.			b. c.	
7 "			77	79					5			
8 "			77	79								Hove to, with main-topsail aback.
9 "			77	79	77°	30·160	78° 68°					
10 "			77	79					6			
11 "			77	79								
12 "			78	79								
Mean.			77	78·42	78·25	30·175						
Dec. 2.												
1 A. M.			77°	78°				N. E.	6	Nimbus	b. c.	Hove to.
2 "			77	78								
3 "			77	78	76°	30·080	78° 70°					
4 "			76	78								
5 "			76	78								Course W. by S.
6 "			76	78							c. p. q.	
7 "			76	78								
8 "			76	78								
9 "			76	78	77°	30·180	80° 68°				c. q.	
10 "			77	78								Saw some tern and flying-fish.
11 "			78	78				E. by N.	5			
12 "	19° 21′	167° 39′	78	78							c.	
1 P. M.			78	79						Cir.cum		
2 "			78	79							b. c.	Course S. W. by S.
3 "			78	78	76°	30·180	80° 68°					
4 "			77	79						Clear.	b.	
5 "			77	79								
6 "			77	79					6			Water blue.
7 "			77	79				E. N. E.				
8 "			77	79								
9 "			76	79	76°	30·180	78° 66°					
10 "			76	79								Course W. by S.
11 "			76	79								Cast of the lead in 70 fathoms, no bottom.
12 "			76	79								
Mean.			76·75	78·46	76·25	30·155						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Diree.	Force.	Clouds.	Weather.	Remarks.
Dec. 3.												
1 A. M.			77°	79°				E. N. E.	6	Cum. st.	b. c.	Course W. by S.
2 "			76	79								
3 "			77	79	77°	30·160	78° 68°					
4 "			77	79								
5 "			78	79				East.				Soundings with 55 fathoms; no bottom.
6 "			78	79								
7 "			78	79								
8 "			78	79								
9 "			80	79	78°	30·140	80° 68°			Cum.		Heavy sea from the eastward.
10 "			80	79								
11 "			80	79				N. E.				Passed over the reported position of a shoal, water deep blue.
12 "	18° 22′	171° 04′	80	80					7			
1 P. M.			80	80								
2 "			80	80								
3 "			80	80	79°	30·160	78° 70°	N. N. E.				Course S. by W.
4 "			80	80					6			Saw some albatross and other birds.
5 "			79	80								
6 "			78	80						Nimbus	c. u.	
7 "			78	80				N. E.				
8 "			78	80					7		q. p.	
9 "			77	79	72°	30·080	Rain.		6			
10 "			77	79				E. by N.	8			
11 "			77	79					6			
12 "			79	79				E. N. E.				
Mean.			78·41	79·37	76·5	30·135						
Dec. 4.												
1 A. M.			78°	79°				East.	6	Nimbus	q. p.	Course S. by W.
2 "			78	79								
3 "			78	79	77°	30·080	78° 69°				c.	
4 "			77	79								
5 "			77	79						Over-cast.	o.	
6 "			77	79				E. by S.				Course W. by S.
7 "			77	79								
8 "			78	79					5			
9 "			80	79	79°	30·060	80° 68°			Cum. st.	b. c.	Heavy swell from the N. E.
10 "			81	80								
11 "			81	80								
12 "	16° 34′	173° 27′	81	80				E. by N.				
1 P. M.			81	80								
2 "			80	80					4			
3 "			80	80	79°	30·100	80° 70°					Saw a few albatross.
4 "			80	80				E. S. E.		Clear.	b.	
5 "			79	80								
6 "			79	80					3			
7 "			79	80								Course S. W.
8 "			78	80				E. N. E.		Cum.	b. c.	
9 "			79	79	79°	30·080	78° 70°					
10 "			79	79					4			
11 "			78	79								
12 "			77	79								
Mean.			78·83	79·46	78·5	30·080						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 5.												
1 A. M.			77°	80°				N.E.byE.	4	Cum.st.	b. c.	Course S. W.
2 "			77	80							c. p.	
3 "			79	80	77°	30·080	80° 70°	N.E.by N				
4 "			79	79								
5 "			78	79				E. N. E.			c.	
6 "			78	80								
7 "			79	80						Cum.		
8 "			79	80				E. by N.			b. c.	Saw a large flock of black terns and some gannets.
9 "			80	80	*84°	30·140	80° 72°					* In the sun.
10 "			81	80								
11 "			81	80				East.	3	Clear.	b.	Course W. ½ S.
12 "	15° 19′	175° 26′	81	80								Water blue.
1 P. M.			84	81					4			
2 "			84	81								Course S. W.
3 "			81	81	80°	30·120	82° 74°	E. by N.				
4 "			80	80					3			
5 "			80	80								School of porpoises seen.
6 "			80	80								
7 "			79	80				E. N. E.		Cumu-	b. c. l.	
8 "			79	80						lus in		Heading S. by E. under easy sail.
9 "			80	80	78°	30·120	82° 74°			horizon.		
10 "			79	80								
11 "			79	80						Clear.	b. l.	
12 "			78	80								
Mean.			79·66	80·04	79·75	30·115						
Dec. 6.												
1 A. M.			80°	80°				E. by N.	3	Clear.	b. l.	Heading to the southward under easy sail.
2 "			80	80								
3 "			80	80	79°	30·120	80° 74°					
4 "			80	80						Cum.	b. c.	
5 "			80	80								Course W. by S.
6 "			80	80								
7 "			80	81				E. ½ N.				
8 "			80	81								
9 "			80	81	81°	30·140	82° 76°		4			Water deep blue.
10 "			82	81					3			
11 "			83	81				East.				
12 "	15° 08′	176° 58′	82	81								Near the reported position of Gaspar's Island. No indications of land, except a very few birds.
1 P. M.			83	81								
2 "			83	81								
3 "			83	82	80°	30·020	82° 72°					
4 "			81	81					2			
5 "			80	80						Cum. st.		
6 "			79	80								
7 "			81	80								
8 "			81	80								
9 "			80	81	79°	30·020	82° 76°	E. by S.				
10 "			80	81						Cum.		
11 "			80	81								
12 "			80	81								
Mean.			80·75	80·62	79·75	30·075						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1841.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 7.												
1 A. M.			79°	81°				East.	2	Cum.	b. c.	Course W. by S.
2 "			78	81								
3 "			78	81	78°	30·060	80° 76°					
4 "			79	81								
5 "			78	81						Clear.	b.	
6 "			78	81								
7 "			79	81				E. by N.				
8 "			80	81								
9 "			84	81	82°	30·080	82° 76°					
10 "			84	81								
11 "			83	81								
12 "	15° 08′	178° 21′	84	81								
1 P. M.			82	81				N.E.byE.				Course W. S. W.
2 "			81	81								
3 "			80	81	*88°	29·960	84° 77°					* In the sun.
4 "			83	81						Nimbus	c. u.	
5 "			81	81				East.				
6 "			79	81								
7 "			78	81				N.E.byE.	1			
8 "			77	81				East.	2		d.	
9 "			74	81	74°	30·000	Rain.	Calm.	0			
10 "			74	81								
11 "			76	81				S. E.	1	Cum. st.	b. c.	Saw several meteors.
12 "			77	81								
Mean.			79·41	81	80·5	30·025						
Dec. 9.												
1 A. M.			77°	80°				East.	2	Cum. st.	b. c.	Course W. S. W.
2 "			77	80								
3 "			77	80	77°							
4 "			77	80								
5 "			78	81								Passing from west to east longitude, omit the 8th of December.
6 "			79	82				E. N. E.		Clear.	b.	
7 "			79	82								
8 "			79	82								
9 "			79	81	83°			N.E.byE.	3			
10 "			80	81						Cum. st.	b. c.	
11 "		E.	80	81								
12 "	14° 56′	179° 57′	79	81								
1 P. M.			81	81								Course W. by S.
2 "			81	81				E. N. E.				
3 "			77	81	76°						p.	
4 "			76	81				S. E.	4		b. c.	Lost the N. E. Trades.
5 "			78	81					3			
6 "			78	81				East.				
7 "			79	81						Clear.	b.	
8 "			79	81				S. E.				
9 "			78	81	78°							
10 "			78	80					1		b. l.	
11 "			77	80				S. S. E.	2			
12 "			77	80								
Mean.			78·33	80·83	78·5							

No observations recorded.

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1841.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 10.												
1 A. M.			78°	81°				Var.	1	Cum. st.	b. c. l.	Course W. by S.
2 "			78	81								
3 "			77	81	77°	30·080	82° 76°					
4 "			77	81								
5 "			77	81				Calm.	0	Over-cast.	o.	
6 "			77	81								
7 "			77	81								
8 "			78	81				N. E.	1	Cir. stra.	b. c.	
9 "			80	81	80°	30·080	82° 76°	Calm.	0			
10 "			80	81						Clear.	b.	
11 "			80	81								
12 "	14° 57′	178° 50′	80	83				N. E^{d}.	1			
1 P. M.			82	83				E. by N.				Long dead swell from the northeast.
2 "			81	83								
3 "			81	83	80°	30·080	83° 79°			Cum.	b. c.	
4 "			80	83								
5 "			80	81								
6 "			80	81					2			
7 "			78	81				S. E.				A brilliant meteor seen in the west, of a blue colour; when near the horizon it burst, throwing off stars of a red colour.
8 "			78	81						Clear.	b.	
9 "			78	81	77°	30·000	80° 70°					
10 "			78	81					1			
11 "			78	81								
12 "			77	81					2			
Mean.			78·75	81·41	78·5	30·060						
Dec. 11.												
1 A. M.			77°	81°				E. S. E.	2	Clear.	b. l.	Course W. by S.
2 "			77	81								
3 "			77	81	76°	30·000	82° 76°					Water phosphorescent.
4 "			77	81								
5 "			77	81				S. E.				
6 "			77	81								
7 "			80	81								
8 "			81	81					1			
9 "			82	83	80°	30·080	82° 76°					
10 "			82	83						Cumu-	b. c.	
11 "			82	83				Calm.	0	lus in		
12 "	14° 59′	177° 42′	81	83						horizon.		
1 P. M.			82	84								
2 "			81	84						Clear.	b.	
3 "			81	84	83°	30·100	82° 75°					
4 "			81	84								
5 "			81	84								
6 "			81	84								
7 "			80	84								
8 "			80	83				N. E^{d}.	1			Course S. W. by W.
9 "			79	83	78°	30·080	81° 70°					
10 "			79	82								Water very phosphorescent.
11 "			78	82								
12 "			78	82								
Mean.			79·62	82·5	79·25	30·065						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1841.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 12.												
1 A. M.			77°	81°				N. E.	1	Clear.	b.	Course W. by S.
2 "			77	81								
3 "			77	81	78°	30·000	82° 76°					
4 "			77	80·5				N. N. E.				
5 "			77	81					2			
6 "			79	82								
7 "			80	82				N. E.				Saw a whale.
8 "			81	82								
9 "			81	82	82°	30·000	81° 76°			Cum.	b. c.	
10 "			80	82								
11 "			81	82								
12 "	14° 48′	176° 42′	82	83								
1 P. M.			81	83								Several birds seen.
2 "			81	83				East.				
3 "			83	83	81°	30·000	82° 76°					
4 "			84	83						Clear.	b.	Course W. N. W.
5 "			82	83								
6 "			80	83				E. by N.				
7 "			79	83								
8 "			79	83				E. N. E.		Cum.	b. c.	
9 "			79	81	78°	30·000	84° 76°					
10 "			77	81								
11 "			78	81				E. by S.				
12 "			78	82								
Mean.			79·58	82·02	79·75	30·000						
Dec. 13.												
1 A. M.			79°	82°				E. by S.	2	Cumu-lus in horizon.	b. c.	Hove to.
2 "			79	82								
3 "			79	82	78°	30·000	80° 70°					
4 "			79	82				E. S. E.				
5 "			79	82					3			
6 "			79	82								
7 "			80	82								Course W. S. W.
8 "			81	82				S. E.				
9 "			82	82	82°	30·000	82° 70°			Clear.	b.	
10 "			82	82								
11 "			83	82								
12 "	14° 58′	175° 38′	83	82								
1 P. M.			82	83					2			
2 "			82	83						Cum. st.	b. c.	Course S. W. by W.
3 "			82	83	83°	30·000	82° 74°					
4 "			82	83				East.	3			
5 "			80	83								
6 "			79	83								
7 "			79	83								
8 "			79	81				E. ½ N.				
9 "			79	81	83°	30·000	83° 76°					
10 "			79	81						Clear.	b.	Hove to.
11 "			79	82								
12 "			79	82								
Mean.			80·25	82·16	81·5	30·000						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1841.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 14.												
1 A. M.			80°	82°				East.	3	Cum. st.	b. c. l.	Hove to.
2 "			80	82								
3 "			79	82	79°	29·960	80° 70°					
4 "			79	82								Took the N. E. Trades.
5 "			79	82				E. by N.				
6 "			80	82								Course W. by S.
7 "			80	82						Cum.	b. c.	
8 "			81	82								
9 "			81	82	80°	30·000	84° 74°					
10 "			81	83								
11 "			81	83								Long swell from the
12 "	15° 00′	174° 50′	81	83						Over-	o.	N. E.
1 P. M.			79	83					2	cast.		
2 "			80	82								Water deep blue.
3 "			81	82	82°	30·000	82° 76°					
4 "			79	82						Cum.	b. c.	
5 "			80	82								
6 "			79	82								
7 "			80	82								
8 "			80	82								
9 "			80	82	80°	29·960	82° 76°			Cir.cum	b. c. l.	Course W. by N.
10 "			80	82				N.E.byE.	3			
11 "			80	82								
12 "			79	82								
Mean.			79·96	82·16	80·25	29·980						
Dec. 15.												
1 A. M.			80°	81°				N.E.byE.	3	Cir.cum	b. c. l.	Course W. by N.
2 "			80	81								
3 "			80	81	77°	30·000			4			
4 "			80	81						Nimbus	c. u.	
5 "			79	82				N. N. E.				
6 "			79	82							q. t. l. d.	
7 "			79	82				N. by W.		Stratus.		
8 "			79	82							b. c.	
9 "			81	82	81°	30·000	80° 70°			Cir. stra.		Swell from the N. W.
10 "			81	82								
11 "			81	82					5			
12 "	15° 33′	172° 33′	80	82				N. N. E.				
1 P. M.			81	82								
2 "			80	82								Water deep blue.
3 "			80	81	80°	30·000	80° 74°	N. by W.				
4 "			80	81						Cum. st.		
5 "			80	81					4			
6 "			80	81				N. by E.				
7 "			80	82					3			
8 "			78	82				N. E.				
9 "			79	82	78°	29·980	82° 70°					Course N. W.
10 "			79	82								
11 "			78	82								
12 "			78	81								
Mean.			79·66	81·62	79	29·995						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1841.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 16.												
1 A. M.			79°	82°				N.E.by N	4	Cum.	b. c.	Steering to the northward and westward.
2 "			79	82				N. N. E.				
3 "			79	82	78°	30·000	82° 76°					
4 "			78	82								
5 "			77	82								
6 "			77	82								
7 "			78	82				N. E.		Clear.	b.	
8 "			79	82								
9 "			79	82	78°	30·000	82° 70°	N. N. E.				
10 "			80	82						Cumu-	b. c.	
11 "			80	82				N. by E.	5	lus in		Water deep blue.
12 "	16° 02′	170° 55′	80	82						horizon.		
1 P. M.			79	82								
2 "			79	82				North.	4			
3 "			80	82	79°	30·000	82° 78°					Some flying-fish seen.
4 "			81	82								
5 "			79	82								
6 "			78	82						Clear.	b.	
7 "			77	81								
8 "			77	81								
9 "			78	81	78°	29·980	80° 74°				b. l.	
10 "			76	81				N. by E.				Water phosphorescent.
11 "			76	81							b.	
12 "			76	81								
Mean.			78·39	81·75	78·25	29·995						
Dec. 17.												
1 A. M.			78°	82°				N.E.by N	4	Clear.	b.	Steering to the northwestward.
2 "			77	81								
3 "			78	81	78°	30·000	80° 70°					
4 "			77	81								
5 "			77	81								
6 "			77	81				East.	3			
7 "			77	81								
8 "			78	81								
9 "			80	82	79°	30·000	80° 70°	E. N. E.				
10 "			80	82								
11 "			81	82								
12 "	16° 54′	169° 11′	81	82								Some fin-back whales and tropical birds seen.
1 P. M.			81	82								
2 "			79	81				N. N. E.	4			
3 "			79	82	79°	29·980	80° 70°					
4 "			80	82								
5 "			79	82								
6 "			77	81				N. by E.				
7 "			79	81								
8 "			78	81				N.E.by N			b. m.	
9 "			77	81	77°	30·000	78° 68°	N. E.				
10 "			77	81								
11 "			77	81								
12 "			76	81								
Mean.			78·33	81·39	78·25	29·995						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1841.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 18.												
1 A. M.			75°	80°				N. E.	4	Clear.	b.	Steering to the northward and westward.
2 "			75	80								
3 "			76	80	76°	30·000	80° 70°			Cum.	b. c.	
4 "			76	80								
5 "			77	80				N.E.byE.				
6 "			77	80					3			
7 "			77	80								
8 "			77	80								
9 "			81	80	*101°	30·000	80° 68°	E. N. E.				* In the sun.
10 "			81	81								
11 "			81	81				N. E.				
12 "	18° 29′	168° 26′	82	82					2	Clear.	b.	
1 P. M.			81	81								
2 "			78	81								
3 "			79	81	78°	29·980	80° 68°	N. by E.		Cum. st.	b. c.	
4 "			79	81								
5 "			79	81				N. N. E.				
6 "			79	81								
7 "			77	81								Course N. W.
8 "			77	81					1	Clear.	b.	
9 "			76	80	76°	29·980	78° 68°					
10 "			76	80								A brilliant meteor to the N. N. W. Several smaller ones seen.
11 "			75	79								
12 "			75	79								
Mean.			77·75	80·41	82·75	29·990						
Dec. 19.												
1 A. M.			76°	80°				N.E.by N	1	Clear.	b.	Course N. W.
2 "			75	80								
3 "			75	80	75°	30·000	81° 70°		2			
4 "			75	80								
5 "			76	80						Cum.	b. c.	
6 "			76	80				N. N. E.				
7 "			79	80								A school of fin-back whales.
8 "			79	80					3			
9 "			79	80	80°	30·040	80° 68°			Clear.	b.	Course W. by N.
10 "			80	80								
11 "			80	81				N. by E.				
12 "	19° 04′	167° 38′	81	81								
1 P. M.			79	82					4			Tern and other birds seen.
2 "			79	82				N.E.by N				
3 "			79	81	79°	30·040	81° 70°					Water deep blue.
4 "			78	81								
5 "			77	80					3			Dead swell from the northward.
6 "			77	80								
7 "			78	80								
8 "			78	81				N. E.				
9 "			77	81	75°	30·000	79° 69°		2			
10 "			76	80								Steering to the E. S. E.
11 "			76	80								
12 "			76	80								
Mean.			77·54	80·41	77·25	30·020						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1841.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 24.												
1 A. M.			78°	81°				N.E.by N	3	Clear.	b.	Course W. by S.
2 "			78	81								
3 "			78	81	77°	30·010	80° 72°					
4 "			78	80								
5 "			78	81								
6 "			78	81				North.	4	Cum.	b. c.	
7 "			79	81								
8 "			78	81				N. by W.				
9 "			80	81	82°	30·040	80° 70°					
10 "			80	81					6			
11 "			80	81				N. by E.				
12 "	18° 41′	159° 35′	80	81						Cum. st.		
1 P. M.			80	81								Water deep blue.
2 "			79	81								
3 "			79	81	79°	29·980	80° 70°					
4 "			79	81				N. E.		Cir.cum		
5 "			80	82								
6 "			79	82								
7 "			78	81				E.N.E.		Clear.	b.	
8 "			78	81								
9 "			79	81	77°	30·000	80° 74°	N. E.				
10 "			79	81								
11 "			78	80								
12 "			77	81								
Mean.			78·75	81	78·75	30·007						
Dec. 25.												
1 A. M.			77°	80°				N.N.E.	6	Clear.	b.	Course W. by S.
2 "			78	80								
3 "			78	80	77°	30·040	81° 73°					
4 "			78	80				North.				
5 "			78	80								
6 "			78	80								
7 "			78	80								
8 "			78	80				N. E.				
9 "			79	80	80°	30·000	80° 72°			Cum.	b. c.	Course W. S. W.
10 "			80	81								Flying-fish seen in great numbers.
11 "			80	81				E.N.E.				
12 "	18° 16′	155° 40′	80	81								Sea deep blue.
1 P. M.			80	81								
2 "			80	81				N. E.	7			Passed over the reported position of Folger's Island, but saw no indications of land. Course W. ¼ N.
3 "			79	81	78°	29·940	80° 72°			Clear.	b.	
4 "			79	81					6			
5 "			79	81				E.N.E.				
6 "			78	81								
7 "			78	81								
8 "			78	81								
9 "			78	80	77°	30·000	80° 72°					
10 "			76	80								
11 "			77	80					5			
12 "			78	80					4			
Mean.			78·41	80·46	78	29·995						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1841.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 26.												
1 A. M.			79°	81°				E. N. E.	4	Clear.	b.	Course west.
2 "			79	81								
3 "			77	80	77°	30·000	80° 72°	East.		Cum.	b. c.	
4 "			77	80								
5 "			77	80				N.E.byE.				
6 "			77	80								
7 "			79	80								
8 "			79	80								
9 "			79	81	*87°	30·000	80° 72°	E. N. E.				* In the sun.
10 "			79	81								
11 "			80	81					2			
12 "	18° 48′	152° 30′	80	81						Cum. st.		
1 P. M.			80	81				E. by N.				
2 "			80	81								
3 "			81	81	80°	29·990	80° 70°		3			
4 "			79	81				E. N. E.				
5 "			78	80						Clear.	b.	
6 "			79	80								
7 "			78	80				N. E.		Cir.cum	b. c.	
8 "			78	80								
9 "			78	80	77°	30·000	80° 70°					
10 "			77	80				E. by N.				
11 "			78	80								
12 "			77	80								
Mean.			78·54	80·42	80·25	29·997						
Dec. 27.												
1 A. M.			78°	80°				E. N. E.	3	Cir.cum	b. c.	Course west.
2 "			78	80								
3 "			78	80	77°	30·000	79° 72°					
4 "			78	80						Cum.		
5 "			78	80				E. by N.				
6 "			77	80					4			
7 "			78	80								
8 "			80	81								
9 "			80	80	81°	30·000	80° 70°			Clear.	b.	
10 "			80	80				East.	5			
11 "			79	80					4			Gannets, terns, and other birds about the ship.
12 "	18° 57′	150° 02′	78	80								
1 P. M.			80	80					3			
2 "			79	81				E. S. E.				
3 "			79	81	78°	30·000	80° 72°		4			Sea very smooth; water deep blue.
4 "			79	80								
5 "			78	80					3			
6 "			78	80				E. by S.				
7 "			78	80								
8 "			78	80				S. E.				
9 "			77	79	78°	30·000	80° 72°					
10 "			77	79				S. by E.				
11 "			77	80								
12 "			77	79				S. E. by E.				
Mean.			78·21	80	78·5	30·000						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1841.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Dec. 28.												
1 A. M.			78°	80°				S. E.	2	Clear.	b.	Course W. ½ S.
2 "			77	80								
3 "			76	79	77°	30·000	80° 74°					
4 "			77	79								
5 "			77	79				East.				
6 "			77	79								
7 "			77	79								
8 "			78	79					3			Water deep blue.
9 "			78	79	81°	30·000	80° 70°					
10 "			78	80				E. by S.				
11 "			80	80								
12 "	19° 14′	147° 49′	80	80								A few gannet and tern seen.
1 P. M.			83	80						Cum. st.	b. c.	
2 "			83	80				E. S. E.				
3 "			83	80	79°	29·980	80° 72°					
4 "			82	80								A long irregular swell from the northward, with a short cross sea from the S. E.
5 "			79	80				S. E.				
6 "			79	80								
7 "			78	80				S. S. E.		Cir.cum		
8 "			78	80							b. c. w.	
9 "			79	80	77°	29·960		S. by E.				Course S. W. by W.
10 "			79	80					4			
11 "			78	79				S. S. E.				
12 "			78	79								
Mean.			78·83	79·62	78·5	29·985						
Dec. 29.												
1 A. M.			78°	80°				S. by E.	4	Cir.cum	b. c. w.	Course west.
2 "			78	79								
3 "			78	79	77°	29·960	79° 72°			Nimbus	c. u.	
4 "			78	79								
5 "			78	79								
6 "			78	79				S. S. E.	5		p.	
7 "			78	80							c.	Island of Grigan in sight to the S. W.
8 "			79	80								
9 "			80	80	78°	29·940			3	Over-cast.	o.	
10 "			79	80								Water blue.
11 "			78	80				S. by W.			d.	Steering to the northward and westward.
12 "	19° 15′	145° 25′	76	80				W. by S.				
1 P. M.			76	80				S. W.				
2 "			79	80					1			
3 "			75	79	73°	29·900	Rain.	Calm.	0			
4 "			76	79							f. m. d.	
5 "			75	79								
6 "			75	79				S. W.	3			
7 "			75	79					4		d.	
8 "			75	79				West.	1		p. d. m.	
9 "			76	79	76°	29·980	Rain.		2			
10 "			76	79				S. E.	1			
11 "			75	79				W. S. W.	1		c.	Island of Assumption in sight to the N. E.
12 "			75	79								
Mean.			76·5	79·39	76	29·945						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1841.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc..	Force.	Clouds.	Weather.	Remarks.
Dec. 30.												
1 A. M.			75°	79°				S. W^{d}.	1	Over-	f.	Steering to the west-
2 "			75	79						cast.		ward.
3 "			75	79	77°	29·980		Calm.	0			
4 "			75	79						Clear.	b.	
5 "			76	79				N. N. W.	1			
6 "			76	79								
7 "			76	79								Island of Assumption
8 "			77	79								in sight to the north-
9 "			77	79	76°	29·980		N. E^{d}.				ward; also the
10 "			77	79						Cir.cum	b. c.	Mangs.
11 "			78	79				S. E^{d}.		Nimbus	p. d.	
12 "	19° 32′	144° 48′	79	79								
1 P. M.			78	80				S. S. W.				
2 "			78	80								Water deep blue.
3 "			76	80	78°	30·000		S. W.			b. c.	
4 "			76	80								Terns and gannets
5 "			75	80						Over-	f.	seen in great num-
6 "			74	80				Calm.	0	cast.		bers.
7 "			73	79								Lost sight of the
8 "			73	79				N. W^{d}.	1		d.	island.
9 "			75	79	76°	29·980						
10 "			75	79						Nimbus	b. c.	
11 "			75	79								
12 "			75	79				Calm.	0	Clear.	b.	
Mean.			75·79	79·25	76·75	29·985						
Dec. 31.												
1 A. M.			75°	79°				Calm.	0	Cir.cum	b. c.	
2 "			75	79								
3 "			75	79	76°	30·000	82° 78°					
4 "			75	79								
5 "			75	79				S. W^{d}.	1	Nimbus	c.	Course west.
6 "			75	79				S. S. W.				
7 "			77	79								
8 "			78	79					2			
9 "			79	80	78°	30·000			1			A heavy cross swell.
10 "			81	80								
11 "			81	81				Calm.	0			
12 "	19° 34	144° 20′	78	81				N^{d}.	2	Over-	o.	
1 P. M.			78	79					4	cast.		
2 "			77	79				N. by W.	5			Terns and other birds
3 "			77	79	76°	30·000						around the ship.
4 "			77	79								
5 "			76	79								
6 "			76	79				N. E.		Cum. st.	b. c.	
7 "			76	79								
8 "			76	79								
9 "			76	79	77°	30·000	77° 70°	E. by N.				
10 "			76	79					4			
11 "			76	79								
12 "			76	79								
Mean.			76·71	79·29	76·75	30·000						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 1.												
1 A. M.			76°	79°				E. by N.	4	Cum. st.	p. d.	Course west.
2 "			76	79				East.	3			
3 "			76	79	76°	30·000	78° 68°					
4 "			76	79				E. by S.				
5 "			76	79							b. c.	
6 "			76	80					4			
7 "			78	80					6	Cum.		
8 "			79	80				E. S. E.				
9 "			80	80	80°	30·000	80° 70°	South.				
10 "			77	80								
11 "			80	80					7			
12 "	19° 40′	140° 58′	81	80								
1 P. M.			81	80								
2 "			81	80								Water deep blue.
3 "			81	80	80°	29·940	80° 70°	S. by W.				
4 "			80	80								
5 "			80	80				S. S. W.		Nimbus	c. u.	
6 "			80	80					6			
7 "			79	80				S. W.				Steering to the northward and westward.
8 "			80	80					8			
9 "			80	79	79°	29·880	80° 72°		6			
10 "			79	79						Cir.cum	c. u.	
11 "			79	79				W. S. W.				
12 "			79	79								
Mean.			78·75	79·62	78·75	29·955						
Jan. 2.												
1 A. M.			72°	79°				N. W.	8	Nimbus	q. r.	Course W. S. W.
2 "			71	79					4		p.	
3 "			70	79	71°	29·980						
4 "			70	79						Cum. st.	b. c.	
5 "			70	79				North.				
6 "			69	79					5			
7 "			70	78								
8 "			71	78								
9 "			71	78	71°	29·980	80° 70°	N. E.				
10 "			72	76								
11 "			74	76								
12 "	19° 59′	138° 06′	74	76				N. N. E.				
1 P. M.			74	79					6			Course W. by S.
2 "			74	79								
3 "			74	79	72°	30·000	78° 70°	N. N. W.				
4 "			73	78								
5 "			73	78								
6 "			73	78						Over-cast.	o.	
7 "			73	77				N. by W.				
8 "			73	77					7			
9 "			72	78	72°	30·080	78° 70°					Heavy sea from the N. W.
10 "			72	78								
11 "			72	78								
12 "			72	78								
Mean.			72·04	78·04	71·5	30·010						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 3.												
1 A. M.			73°	78°				N. by W.	6	Nimbus	c. u.	Steering to the westward.
2 "			73	78						Cir.cum		
3 "			72	79	71°	30·100	76° 68°	NW.byN		Nimbus		
4 "			72	79								
5 "			72	78								
6 "			72	78				N. by W.		Cum. st.	b. c.	
7 "			71	78								
8 "			73	78								
9 "			74	78	75°	30·100	80° 72°		7			
10 "			74	79								
11 "			72	79				N. by E.	6			
12 "	19° 35′	134° 26′	73	79								Course W. by N.
1 P. M.			72	79								
2 "			72	79								Heavy irregular sea from the northward.
3 "			72	79	71°	30·100	78° 70°	N. N. E.				
4 "			72	79								
5 "			72	79								Course W. N. W.
6 "			72	79								
7 "			72	78								
8 "			72	78					5			
9 "			72	78	70°	30·160	76° 68°	E. by N.				
10 "			71	77						Clear.	b.	
11 "			71	76								Sea going down.
12 "			70	76					4			
Mean.			72·12	78·16	71·75	30·115						
Jan. 4.												
1 A. M.			71°	76°				E. N. E.	3	Clear.	b.	Course W. ¼ N.
2 "			71	77								
3 "			71	77	70°	30·100	78° 68°					
4 "			70	77				East.				
5 "			70	77				E. by N.	4			
6 "			71	77								
7 "			70	78								
8 "			73	78				N. E.	5			
9 "			73	78	73°	30·200	80° 72°					
10 "			73	78						Nimbus	c.	
11 "			74	78				N. N. E.				Sea smooth.
12 "	20° 11′	131° 25′	74	78								
1 P. M.			74	78					6			
2 "			74	78							p. d.	Course W. by N.
3 "			74	78	76°	30·200	78° 70°	N. E.				
4 "			73	78						Cir.cum	b. c.	Saw several gannets.
5 "			72	78								
6 "			72	78					5			
7 "			72	77				N.E.byE.		Clear.	b.	
8 "			72	77								Hove to, heading to the northward.
9 "			72	77	70°	30·160	78° 72°					
10 "			73	77								
11 "			72	77								
12 "			72	77								
Mean.			72·21	77·46	72·25	30·165						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 5.												
1 A. M.			72°	77°				E. N. E.	5	Clear.	b.	Hove to, heading to the southward.
2 "			72	77								
3 "			72	76	71°	30·170	78° 72°					
4 "			72	75								
5 "			72	76				E. by N.				
6 "			72	77					4			
7 "			74	77								Course W. ½ N.
8 "			78	78								
9 "			76	76	71°	30·200	78° 70°	N. E.				
10 "			74	76						Cum. st.	b. c.	Sea smooth, colour deep blue.
11 "			74	78				N. N. E.				
12 "	20° 17′	129° 18′	76	77								
1 P. M.			75	78				E. N. E.				
2 "			75	78								Course west.
3 "			75	78	75°	30·160	76° 70°	East.		Nimbus		
4 "			74	78								
5 "			74	78				E. by N.	5	Cum.		
6 "			75	78								
7 "			74	78								
8 "			73	78				E. N. E.				
9 "			75	78	74°	30·160	76° 70°			Cir.cum		Water phosphores-cent.
10 "			74	78				E. by N.	4			
11 "			73	77								
12 "			73	77								
Mean.			72·92	77·25	72·75	30·172						
Jan. 6.												
1 A. M.			73°	79°				East.	4	Cir.cum	b. c.	Course west.
2 "			74	79								
3 "			74	79	73°	30·200	76° 70°					
4 "			74	79								
5 "			74	79								
6 "			75	79				E. by S.		Cum.		
7 "			75	79								
8 "			75	79								
9 "			75	79	77°	30·160	78° 70°					Sea smooth, colour deep blue.
10 "			78	78								
11 "			78	78					3	Clear.	b.	
12 "	20° 23′	126° 32′	77	78								
1 P. M.			79	78								Course W. ½ S.
2 "			79	78				E. by N.				
3 "			78	79	76°	30·100						
4 "			77	79								
5 "			75	78								
6 "			75	78				E. S. E.				
7 "			74	78								
8 "			74	78								
9 "			74	78		30·100	76° 70°	S. E. by E.				
10 "			75	79								
11 "			75	79				E. by S.				
12 "			75	79								
Mean.			75·5	78·58	75·33	30·140						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 7.												
1 A. M.			75°	79°				E. S. E.	3	Clear.	b.	Course W. ¼ S.
2 "			75	79								
3 "			74	79	75°	30·100	76° 70°					
4 "			74	80				East.				
5 "			75	80					4			
6 "			75	80								
7 "			76	80				S.E.by E.				
8 "			78	79								
9 "			80	79	80°		78° 72°					
10 "			81	79						Cum.	b. c.	
11 "			81	79								
12 "	20° 26′	124° 24′	80	79				E. S. E.				Water deep blue.
1 P. M.			79	79								
2 "			79	79								
3 "			79	79	78°	30·100	80° 70°					
4 "			77	78				S.E.by E.				
5 "			76	78								An albatross seen.
6 "			76	78						Clear.	b.	
7 "			76	78				S. E.	5			
8 "			76	78								
9 "			76	78	76°	30·120	78° 72°					
10 "			76	77				E. S. E.		Cum.	b. c.	
11 "			76	77								
12 "			76	77								
Mean.			76·92	78·66	77·25	30·107						
Jan. 8.												
1 A. M.			75°	77°				S.E. by E.	4	Cum.	b. c.	Course W. by S.
2 "			75	77					5			
3 "			75	77	75°	30·120	76° 70°					
4 "			75	77					4			
5 "			75	77								Sabtang and Batang
6 "			76	77						Clear.	b.	Islands in sight to
7 "			76	77				S. E.				the northward; also
8 "			76	79								the Richmond Rocks.
9 "			78	79	*83°	30·100	79° 70°					* In the sun.
10 "			78	79								Passed an English
11 "			78	79				S.E.by E.				barque.
12 "	20° 10′	121° 19′	78	79				E. S. E.				Water dark blue.
1 P. M.			82	81								
2 "			82	81								Lost sight of land.
3 "			80	81	79°	30·100	80° 72°		3			
4 "			79	80								
5 "			78	80				E. by S.				
6 "			77	78								
7 "			77	78				E. by N.	4			Water olive green; no
8 "			77	78						Cir.cum	b. c. w.	bottom with 44 fms.
9 "			76	77	76°	30·080	78° 74°		5			of line.
10 "			76	76								
11 "			76	76					3			
12 "			76	76								
Mean.			77·12	78·16	78·25	30·100						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 9.												
1 A. M.			75°	76°				N. E.	3	Cum.	b. c. w.	Course S. W.
2 "			75	76								
3 "			75	75	75°	30·080	77° 73°					
4 "			75	75				N. N. E.				Water olive-green.
5 "			75	76					4			
6 "			74	75								Heavy sea from the
7 "			74	75					5			northward.
8 "			74	76								Course S. by W.
9 "			74	75	74°	30·180	76° 70°	North.				
10 "			74	75					6			Took the monsoons.
11 "			75	75								
12 "	19° 09′	119° 31′	75	75						Nimbus	c.	
1 P. M.			75	76					6			Course south.
2 "			75	76				N. by E.	5			
3 "			75	76	73°	30·040	76° 68°			Over-	o.	
4 "			75	76					6	cast.		
5 "			75	76								
6 "			75	76				N.E.by N	8	Nimbus	c.	Heavy sea from the
7 "			75	76				N. N. E.				northward.
8 "			75	77					7			Water dark green.
9 "			76	78	75°	30·080	76° 70°		8			
10 "			76	78								
11 "			76	78						Cir.cum	b. c.	
12 "			76	78					7			
Mean.			74·96	76·04	74·25	30·095						
Jan. 10.												
1 A. M.			77°	78°				N. E.	6	Nimbus	b. c.	Course south.
2 "			77	78								
3 "			78	78	76°	30·100	Rain.				p. d.	
4 "			78	79					5		c.	
5 "			77	79							p.	
6 "			77	79				East.				Land in sight to the
7 "			75	79								southeastward.
8 "			76	79				E.S.E.				Course S. by E.
9 "			76	79	77°	30·140	Rain.					Irregular swell from
10 "			76	80				E. N. E.	4			the northward.
11 "			76	80								Course S. S. E.
12 "	15° 56′	119° 25′	77	81								Water dark green.
1 P. M.			78	81				N. E.	5	Cir.cum	b. c.	Course S. E.
2 "			79	81								
3 "			80	81	79°	30·000	80° 72°	N. N. E.				Standing along the
4 "			79	81								Island of Luzon.
5 "			79	81				N. N. W.				
6 "			79	81				North.				Course south.
7 "			79	81								Cape Capones bearing
8 "			79	81					3			S. 27° E.
9 "			79	81	78°	30·000	79° 72°		2			
10 "			79	81					1	Clear.	b.	
11 "			79	81								
12 "			79	81				Calm.	0			
Mean.			77·83	80·04	77·5	30·060						

U. S. SHIP VINCENNES.

FROM HONOLULU TO MANILLA.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 11.												
1 A. M.			78°	81°				E. S. E.	2	Clear.	b.	Beating up for the anchorage at Manilla.
2 "			78	81					4			
3 "			78	81	78°	30·040	78° 72°					
4 "			78	81					6	Nimbus	b. c.	Land in sight to the eastward.
5 "			78	81				N.E.byE.	4	in		
6 "			78	81						horizon.		Heavy sea from the northward.
7 "			78	81					3			
8 "			79	82				N. E.				
9 "			80	82	80°	30·140	80° 72°		4			
10 "			80	82								
11 "			80	82						Nimbus		
12 "	14° 19′	120° 01′	81	81				N.E.byE.	3	over the		
1 P. M.			83	81					5	land.	c. q.	
2 "			81	81					3			
3 "			82	81	80°	30·000	82° 70°	E. by N.	7			
4 "			81	81					2			
5 "			81	81					3	Nimbus		
6 "			81	81							c. p. d.	Point Capones N. 13° W.
7 "			80	80				N.E.byE.				
8 "			80	80								
9 "			78	81	77°	30·000	Rain.	N.E.by N				
10 "			78	81							b. c.	Sounded in 50 fms.; bottom black sand and mud.
11 "			78	81						Cir.cum		
12 "			78	81					2	Clear.	b.	
Mean.			79·56	81·08	78·75	30·045						
Jan. 12.												
1 A. M.			77°	80°				E. N. E.	2	Clear.	b.	Beating up for Manilla.
2 "			77	80					3			
3 "			77	80	77°	30·080	82° 78°					
4 "			76	80				East.	4			
5 "			77	80						Cir.cum	b. c.	Land in sight.
6 "			76	79					5			
7 "			76	79					3	Nimbus	c.	
8 "			76	79					6			
9 "			76	79	76°	30·200	82° 74°		3			
10 "			76	79								
11 "			76	79								
12 "			76	79					2			
1 P. M.			78	80							p.	
2 "			79	80							c.	
3 "			78	80	78°	30·100	Rain.				p.	
4 "			78	80					1		c.	Flying-Fish joined company.
5 "			78	80					2			
6 "			78	80				E. N. E.				
7 "			78	80								
8 "			78	80								
9 "			78	80	76°	30·100	82° 78°					Anchored in 14¼ fathoms water.
10 "			79	80						Clear.	b.	
11 "			79	80								
12 "			78	80				Calm.	0			
Mean.			77·29	80·71	76·75	30·120						

Standing in for Manilla.

U. S. SHIP VINCENNES.

HARBOUR OF MANILLA.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 13.												
1 A. M.			77°	80°				Calm.	0	Clear.	b. w.	
2 "			77	80								
3 "			77	80	76°	30·120	82° 72°					
4 "			77	80								
5 "			80	80				N^{d}.	1			Got under way and stood in for Manilla.
6 "			81	80								
7 "			81	82					2	Nimbus	b. c.	
8 "			82	81								
9 "			80	81		30·100	82° 74°					
10 "			82	81							c. u.	Anchored in 6¼ fathoms water, off Manilla.
11 "			82	81				Var.	1			
12 "			82	81								
1 P. M.			80	81							p. d.	
2 "			80	81				Calm.	0		c.	
3 "			80	81		30·000	83° 76°	E. S. E.	3	Cir.cum	b. c.	
4 "			80	81								
5 "			79	81								
6 "			79	80					2			
7 "			79	80								
8 "			79	80							p. d.	
9 "			77	79	77°	30·140	Rain.					
10 "			75	79						Over-	o.	
11 "			76	79				Calm.	0	cast.	b. c. w.	
12 "			75	79						Cum. st.		
Mean.			79·04	80·33	76·5	30·090						
Jan. 14.												
1 A. M.			75°	79°				Calm.	0	Cum. st.	b. c. w.	
2 "			75	79								
3 "			73	78	75°	30·120	84° 76°					
4 "			72	78								
5 "			72	78				N^{d}.	1			
6 "			72	78				Calm.	0		b. c.	
7 "			73	78								
8 "			75	78								
9 "			77	80	74°	30·120	83° 78°	N. W^{d}.	2			
10 "			78	80								
11 "			79	82						Clear.	b.	
12 "			78	83								
1 P. M.			79	82					1			
2 "			80	81				Calm.	0			
3 "			82	80		30·000	82° 72°					
4 "			82	82				E. N. E.	3			
5 "			80	81								
6 "			79	81								
7 "			79	81				N. E.	1			
8 "			78	80								
9 "			76	80		30·040	77° 70°	North.	2		b. w.	
10 "			75	80								
11 "			73	79								
12 "			73	79				Calm.	0			
Mean.			76·46	79·87	74·5	30·070						

U. S. SHIP VINCENNES.

MANILLA, ISLAND OF LUZON.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 15.												
1 A. M.			75°	80°				Var.	1	Clear.	b. w.	
2 "			72	80								
3 "			75	77	74°	30·040	78° 70°	Calm.	0			
4 "			75	77								
5 "			72	78								
6 "			71	78								
7 "			73	80				N^d.	2			
8 "			73	80								
9 "			75	80		30·040	83° 78°					
10 "			76	80								Parties of officers employed surveying.
11 "	Manilla.		77	80				N. E^d.		Nimbus	b. c.	
12 "			76	80					1	over the		
1 P. M.			79	81						land.		
2 "			78	81								
3 "			81	82		30·040	82° 72°	W^d.	2			
4 "			80	81								
5 "			81	81				Calm.	0	Clear.	b.	
6 "			81	81				S. E^d.	2			
7 "			79	80								
8 "			77	80				E. S. E.	3	Cir. stra.	b. c. w.	
9 "			76	79		30·040	77° 70°		2			
10 "			74	78				E. N. E.				
11 "			74	78								
12 "			75	78				N. E.				
Mean.	14° 35′ 34″	120° 57′ 45″	76·04	79·58	74	30·040						
Jan. 16.												
1 A. M.			75°	79°				N^d.	2	Cir. cum	b. c. w.	
2 "			75	79								
3 "			73	78		30·040	78° 72°					Porpoises around the ship.
4 "			72	78					1	Over-	o.	
5 "			70	77						cast.		
6 "			77	79								
7 "			77	79				N. E.	3			
8 "			77	80								
9 "			77	80		30·040	84° 78°			Nimbus	c.	
10 "			79	81								
11 "			79	81								
12 "			79	81								
1 P. M.	Manilla.		80	83				N. N. E.	2			
2 "			81	82								
3 "			80	82		30·080	85° 78°					
4 "			80	81				N. by W.				
5 "			80	81								American ship St. Paul arrived, 120 days from Salem.
6 "			80	80								
7 "			79	80					3		c. u.	
8 "			77	80				N. W^d.				
9 "			77	80		30·070	82° 76°					
10 "			77	80								
11 "			77	80								
12 "			79	80				N^d.				
Mean.			77·29	80·04		30·057						

U. S. SHIP VINCENNES.

MANILLA, ISLAND OF LUZON.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 17.												
1 A. M.			78°	80°				N. E^{d}.	2	Cir.cum	b. c.	
2 "			77	80								
3 "			76	80	74°	30·080	82° 76°					
4 "			75	80								
5 "			75	80				Calm.	0			
6 "			77	79								
7 "			77	80				Var.	1			
8 "			79	81								
9 "			80	83		30·080	82° 72°	S. W^{d}.	1	Cum. st.		
10 "			82	82								
11 "			82	82								
12 "			82	83				South.				
1 P. M.			83	82								
2 "			81	82				S. E^{d}.	2		c. p.	
3 "	Manilla.		80	82		30·080	80° 72°					
4 "			81	82								
5 "			80	82								
6 "			79	81						Cum.	b. c.	
7 "			78	80								
8 "			77	80							b. c. w.	
9 "			77	80		30·080	81° 73°					
10 "			77	80				E. S. E.	1			
11 "			77	80						Clear.	b. w.	
12 "			77	80				East.				
Mean.			78·21	80·87	74	30·080						
Jan. 18.												
1 A. M.			77°	80°				E. N. E.	1	Clear.	b. w.	
2 "			77	80								
3 "			77	80	80°	30·080	80° 74°					
4 "			77	80				N. E.	2	Over-cast.	o.	
5 "			77	80								
6 "			76	80								
7 "			76	80								
8 "			76	80				Calm.	0			
9 "			78	81	75°	30·040	82° 72°					
10 "			78	81				N. W^{d}.	2			
11 "			80	81								
12 "			80	81				W. N. W.				
1 P. M.			81	81								
2 "	Manilla.		81	81								
3 "			81	81		30·000	82° 72°	W. S. W.	4			
4 "			80	80								
5 "			79	80						Cir.cum	b. c.	
6 "			78	80				S. W.	3			
7 "			77	80				S. S. E.				
8 "			76	81								
9 "			76	81		30·000	80° 70°	Calm.	0			
10 "			76	81				N^{d}.	1			
11 "			76	81								
12 "			75	80								
Mean.			77·71	80·46	77·5	30·030						

U. S. SHIP VINCENNES.

MANILLA, ISLAND OF LUZON.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 19.												
1 A. M.			75°	80°				N. W^{d}.	1	Cir.cum	b. c. w.	
2 "			75	80								
3 "			75	78	80°	30·080	82° 72°					
4 "			75	78				W. N. W.				
5 "			75	78								
6 "			75	78						Clear.	b.	
7 "			76	79					2			A Spanish and an English brig arrived.
8 "			77	79								
9 "			79	81		30·080	83° 72°					
10 "			80	81								
11 "			80	82					3			
12 "	Manilla.		81	82								
1 P. M.			83	82					2			Boats employed dredging for shells.
2 "			81	82								
3 "			82	80		30·080	83° 70°	E. N. E.	4			
4 "			80	80								
5 "			81	80								
6 "			80	80						Cum. st.	b. c.	
7 "			80	81								
8 "			79	81							b. c. w.	
9 "			72	80	71°	30·080	81° 72°		2			
10 "			72	80								
11 "			77	80								
12 "			77	80						Over-cast.	o.	
Mean.			77·79	80·08	75·5	30·080						
Jan. 20.												
1 A. M.			76°	80°				E^{d}.	1	Over-	o.	
2 "			76	80				Calm.	0	cast.		
3 "			76	80	75°	30·070	80° 72°					
4 "			75	80								
5 "			75	80								
6 "			74	80				N^{d}.	1		d.	
7 "			76	80						Nimbus		
8 "			78	81							c.	
9 "			81	81	77°	30·080	80° 74°	N. W.	2			Preparing for sea.
10 "			82	82								
11 "			82	82								
12 "			74	80							d.	
1 P. M.			78	80				Var.	1			
2 "	Manilla.		78	80								
3 "			77	80	77°	30·060					p. d.	
4 "			78	80								
5 "			79	80				Calm.	0		c.	
6 "			78	80								
7 "			78	80				E. N. E.	2			
8 "			78	80						Clear.	b. w.	
9 "			78	80	77°	30·080	80° 73°					
10 "			76	80								
11 "			76	80								
12 "			76	80								
Mean.			77·29	80·25	76·5	30·072						

U. S. SHIP VINCENNES.

FROM MANILLA TO CALDERA.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 21.												
1 A. M.			74°	80°				N. E.	3	Clear.	b. w.	
2 "			73	80								
3 "			73	80	73°	30·100	80° 72°					
4 "			73	79								
5 "			74	79							b.	
6 "			75	80				North.				Got under way, the Flying-Fish in company.
7 "			75	80								
8 "			76	80								
9 "			78	80	75°	30·140	81° 70°	N. W^{d}.	1			Spoke the American ship Zanthe, 124 days from Boston.
10 "			79	80								
11 "			79	80				Calm.	0			
12 "			79	81				N^{d}.	1			
1 P. M.			79	81								
2 "			79	81								
3 "			79	81	76°	30·000	80° 72°					
4 "			79	81								
5 "			79	80				E. S. E.	3			
6 "			79	80								
7 "			77	80				E. N. E.	2			Point Mariveles north.
8 "			77	80							b. w.	Course S. W. by W. ½ W.
9 "			77	80		30·100	78° 70°	S.E. by E.				
10 "			77	80								High land in sight to the S. W.
11 "			76	79								
12 "			74	79				E. S. E.	3			No bottom with 30 fathoms of line.
Mean.			76·58	80·04	74·66	30·085						
Jan. 22.												
1 A. M.			76°	80°				East.	4	Clear.	b. w.	Course S. W. by W. ½ W.
2 "			76	80								
3 "			76	80	77°	30·060	80° 74°					
4 "			76	80								
5 "			75	80					3			Steering to the south-eastward.
6 "			75	80				E. N. E.	4			
7 "			76	80						Cir.cum	b. c.	Island of Mindoro in sight to the cast-ward.
8 "			76	81				N. E.				
9 "			78	81	77°	30·080	80° 70°					
10 "			80	81								
11 "			80	82					5			
12 "	13° 24′	120° 12′	80	82					4	Cum.		
1 P. M.			85	82				W^{d}.				
2 "			85	82								The Flying-Fish in company.
3 "			84	82	84°	29·920	82° 70°	S. W.		Clear.	b.	
4 "			83	82					2			
5 "			83	81					3			
6 "			82	81				E. N. E.	4			Working to the east-ward under the island of Mindoro.
7 "			82	82							b. w.	
8 "			82	82								
9 "			82	81	78°	30·060	89° 70°					
10 "			78	81					2			No bottom in 25 fathoms.
11 "			77	81				N. E.				
12 "			77	81								
Mean.			79·33	81·04	79	30·030						

U. S. SHIP VINCENNES.

FROM MANILLA TO CALDERA.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 23.												
1 A. M.			76°	81°				E. N. E.	2	Clear.	b. w.	Course S. S. E.
2 "			76	81								
3 "			76	81	74°	30·080	80° 72°					
4 "			75	81						Cir.cum	b. c. w.	
5 "			75	81				East.	3			Island of Mindoro in
6 "			75	81					2			sight to the east-
7 "			78	81					1		b. c.	ward.
8 "			80	82								
9 "			81	82	80°	29·940	80° 70°					Flying-Fish parted
10 "			80	82								company to examine
11 "			80	82						Cir. stra.		the Apo Shoal.
12 "	12° 46′	120° 41′	80	82				S. W.	2			
1 P. M.			81	82								
2 "			81	82				W. S. W.	3	Clear.	b.	Busvagan Island to
3 "			81	82	82°	29·980	81° 71°					the S. W.; Mindoro
4 "			81	82								to the S. E.
5 "			81	82					2			
6 "			80	82								
7 "			78	81				S. W.	1			No bottom with 60
8 "			78	81				Calm.	0			fathoms.
9 "			79	81	78°	30·000	79° 70°				b. w.	
10 "			79	81								
11 "			78	81								
12 "			78	81								
Mean.			78·62	81·46	78·5	30·000						
Jan. 24.												
1 A. M.			77°	81°				Calm.	0	Clear.	b. w.	Steering to the N. W.
2 "			77	81				N. E.	3			
3 "			77	81	77°	30·020	80° 73°	E. N. E.				
4 "			79	81								Hove to.
5 "			79	82				East.				
6 "			80	82					4		b.	Mindoro, Ambolon,
7 "			80	82								and several other
8 "			81	82					5			islands in sight.
9 "			81	82	80°	29·940	80° 70°					
10 "			82	81				E. N. E.				
11 "			82	81								
12 "	12° 03′	120° 09′	82	81					6			
1 P. M.			82	81						Cirrus.	b. c.	
2 "			82	81								Sounded in 4½ fms.
3 "			81	81	80°	29·960	81° 71°			Over-	o.	water.
4 "			81	81						cast.		
5 "			80	81								
6 "			80	81					4			
7 "			79	81								
8 "			78	81					1			
9 "			78	81	77°	29·960	80° 72°					
10 "			78	81					3			
11 "			78	81								
12 "			78	81								
Mean.			79·66	81·21	78·5	29·970						

U. S. SHIP VINCENNES.

FROM MANILLA TO CALDERA.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 25.												
1 A. M.			78°	80°				E. N. E.	3	Over-	o.	Hove to.
2 "			78	80					6	cast.		
3 "			78	80	76°	29·940	80° 72°					
4 "			78	81						Clear.	b.	
5 "			78	81								Beating to the north-
6 "			78	81				East.	4			ward and eastward,
7 "			78	81								under the lee of Min-
8 "			78	81								doro. Occasional
9 "			80	81	78°	30·000	80° 70°	N.E.byE.				strong puffs off the
10 "			80	81								land.
11 "			80	81					5			
12 "	12° 06′	121° 09′	80	81								
1 P. M.			80	79				E. N. E.				
2 "			80	79						Cum. st.	b. c.	
3 "			80	79	80°	29·930	80° 70°					
4 "			79	79					6			Mindoro and Lubagao
5 "			79	79				N. E.				in sight to the N. E.
6 "			78	79								Semarara to the
7 "			79	79					5			westward.
8 "			79	79						Clear.	b.	
9 "			79	79	78°	29·980	79° 70°		4			Hove to.
10 "			79	79						Cir.cum	b. c.	
11 "			79	79								
12 "			79	79				N. N. E.	5			
Mean.			78·92	79·87	78	29·962						
Jan. 26.												
1 A. M.			78°	80°				N. N. E.	5	Cir.cum	b. c.,	Beating to the north-
2 "			78	79								ward and eastward.
3 "			78	79	77°	29·980	79° 72°					
4 "			78	79								
5 "			77	79				N. by E.	4			Mindoro, Lubagao and
6 "			77	79								Semarara in sight.
7 "			78	79						Cum. st.		
8 "			78	79				N. N. E.				
9 "			78	79	77°	30·000	80° 70°					
10 "			80	79								
11 "			80	79				N. E.	5			
12 "	12° 14′	121° 27′	80	79								
1 P. M.			80	80				N.E.by N				Saw a vessel.
2 "			80	80								
3 "			80	80	79°	30·020	81° 71°		4		b. c. m.	
4 "			80	80				N.E.byE.				
5 "			79	79					5			Sea greenish blue
6 "			79	79								colour.
7 "			79	79								Several islands in
8 "			79	79				N. by E.				sight.
9 "			79	79	78°	30·000	80° 72°				b. c.	
10 "			79	79								
11 "			79	79								
12 "			79	79								
Mean.			78·75	79·21	77·75	30·000						

U. S. SHIP VINCENNES.

FROM MANILLA TO CALDERA.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 27.												
1 A. M.			77°	79°				E. N. E.	5	Cum. st.	b. c.	Beating to windward.
2 "			77	79								
3 "			76	79	76°	29·980	80° 74°			Clear.	b.	Observed a partial eclipse of the moon.
4 "			76	79					4			
5 "			76	79								
6 "			76	79								Panay in sight to the eastward.
7 "			76	79				N. E.				
8 "			76	79								Course south.
9 "			78	79	76°	29·980	80° 72°		3			
10 "			80	80								
11 "			78	80				North.				
12 "	11° 34′	121° 52′	78	80								
1 P. M.			80	81					4			
2 "			80	81								
3 "			81	81	80°	30·000	80° 73°	N. E.				Course S. S. E.
4 "			81	81					5			
5 "			79	81				E. S. E.		Nimbus	b. c.	Panay in sight.
6 "			81	81					3	over the		
7 "			80	80					1	land.		Steering N. W. by W.
8 "			80	80								A short sea from the N. W.
9 "			79	80	79°	30·000	79° 70°			Clear.		
10 "			78	80				Calm.	0		b. w.	
11 "			78	80								
12 "			77	80								
Mean.			78·25	79·87	77·75	29·990						
Jan. 28.												
1 A. M.			76°	80°				Calm.	0	Clear.	b. w.	
2 "			76	80								
3 "			76	80	78°	30·020	80° 72°					
4 "			77	80								
5 "			76	80							b.	
6 "			77	80				N. E^{d}.	2			Standing to the southward along the island of Panay.
7 "			78	80								
8 "			78	80								
9 "			79	80	81°	29·980	82° 74°		3			
10 "			79	80						Cir. stra.	b. c.	
11 "			80	80								Off the town of San Jose.
12 "	10° 41′	121° 52′	82	80					1			
1 P. M.			84	81						Over-	o.	Sent the boats in to survey the harbour.
2 "			84	81				Calm.	0	cast.		
3 "			81	81	80°	29·880	81° 74°					
4 "			79	81				S. S. W.	1			Steering to the westward.
5 "			79	81						Cum. st.	b. c.	
6 "			79	80				S. S. E.	2			
7 "			77	80				S. E.		Nimbus		Steering to the southwestward.
8 "			77	80				E. S. E.	1	over the		
9 "			77	80	74°	29·900	80° 72°			land.	b. w.	
10 "			77	80						Clear.	b. w.	Halo round the moon.
11 "			76	80				Calm.	0			
12 "			76	80				E^{d}.	1			
Mean.			78·33	80·21	78·25	29·945						

U. S. SHIP VINCENNES.

FROM MANILLA TO CALDERA.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 29.												
1 A. M.			76°	80°				N. E^{d}.	1	Clear.	b. w.	Course S. by E.
2 "			76	80								
3 "			76	80	76°	29·920	80° 72°					
4 "			76	80				N. N. E.				Panay in sight to the
5 "			77	80						Cir.cum	b. c.	eastward.
6 "			78	80					2			
7 "			78	80				N. E.				
8 "			79	80						Cum. st.	c.	
9 "			80	80	80°	29·940	81° 73°		3			
10 "			80	80				E. N. E.				Course south.
11 "			80	80								
12 "	10° 15′	121° 50′	80	81								
1 P. M.			81	80				East.				Water deep blue.
2 "			81	80					4	Cum.	b. c.	
3 "			80	80	80°	30·000	80° 72°	N.E.byE.				Tropical birds seen.
4 "			79	79					5			
5 "			79	79								Panay in sight, bear-
6 "			79	79								ing N. N. E.
7 "			77	79								
8 "			78	79				N. E.				Course S. S. E.
9 "			78	79	78°	29·860	80° 73°		6			
10 "			78	79								
11 "			78	78								No bottom with 35
12 "			78	79					5	Over-cast.	o.	fathoms.
Mean.			78·41	79·62	78·5	29·930						
Jan. 30.												
1 A. M.			78°	79°				N. E.	5	Over-cast.	o.	Course S. by W. ½ W.
2 "			78	79				N. N. E.				
3 "			78	79	78°	29·900	80° 74°					
4 "			78	79				N. by E.				
5 "			78	79					4			
6 "			78	79								Sea deep blue.
7 "			79	79				N. N. E.		Cir.cum	b. c.	
8 "			80	79								
9 "			80	80	79°	29·900	80° 72°					
10 "			80	80					5			
11 "			81	80								
12 "	7° 30′	121° 32′	81	81								Basilan and Minda-
1 P. M.			80	80				North.		Nimbus	c. u.	nao Islands in sight
2 "			80	80								to the S. E.
3 "			79	79		29·920	80° 72°		6		c. p. d.	Course S. E.
4 "			78	79								
5 "			80	78								
6 "			80	78				N. N. E.				
7 "			77	78					5			Anchored off Caldera,
8 "			77	78					8		q. p. d.	in 6¼ fathoms water.
9 "			80	78	80°	29·940	80° 70°		5		c. p. d.	Heavy puffs off the
10 "			77	78								land.
11 "			77	78					9		q.	
12 "			79	78					4		p. d.	
Mean.			78·87	78·96	79	29·915						

U. S. SHIP VINCENNES.

CALDERA, ISLAND OF MINDANAO.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Jan. 31.												
1 A. M.			78°	79°				N^{d}.	4	Nimbus	c. p.	
2 "			77	79								
3 "			77	79	77°	30·000	80° 72°					
4 "			77	79					1		c.	
5 "			79	78								
6 "			76	78								
7 "			77	78				N. E.	2			
8 "			79	78							c. p. d.	
9 "			79	78	79°	29·840	80° 72°					Boats employed surveying and dredging for shells.
10 "			79	78								
11 "			79	78								
12 "			79	79						Cir.cum	c.	
1 P. M.			79	79					4			
2 "			79	79								
3 "			79	79	79°	29·900	81° 73°					
4 "			79	79				N^{d}.	2	Clear.	b.	
5 "			80	79						Over-	o.	
6 "			79	76				N. W^{d}.	1	cast.	m. d.	
7 "			78	78								
8 "			77	77							c. m.	
9 "			76	77	76°	29·900	80° 74°					
10 "			76	78								
11 "			76	78				N^{d}.			r.	
12 "			79	78				N. E^{d}.				
Mean.	6° 55′ 40″	122° 00′ 45″	78·04	78·25	77·75	29·910						
Feb. 1.												
1 A. M.			75°	79°				E^{d}.	1	Over-	d.	
2 "			75	78						cast.		
3 "			75	78	76°	29·900	78° 70°				o.	
4 "			75	78						Cir.cum	b. c.	
5 "			74	78					2			
6 "			76	78				N. E^{d}.				Got under way and stood to the S. W.
7 "			78	78								
8 "			79	79								
9 "			79	78	78°	29·860	80° 72°					
10 "			79	78						Nimbus		
11 "			79	78						over the		
12 "	6° 59′	121° 46′	81	79						land.		Sounded with 60 fms.; coral bottom.
1 P. M.			81	80								
2 "			81	80								
3 "			81	80	80°	29·900	81° 72°	East.	1	Clear.	b.	
4 "			81	80								No bottom at 160 fms.
5 "			81	81								
6 "			79	81								
7 "			79	78								Anchored in 20 fms., coral bottom. Islands in sight to the southward and eastward.
8 "			78	77				Calm.	0			
9 "			78	77	79°	30·000	80° 70°	E^{d}.	1			
10 "			79	77								
11 "			79	79								
12 "			78	78					2			
Mean.			78·33	78·62	78·25	29·915						

U. S. SHIP VINCENNES.

FROM CALDERA TO SOUNG.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 2.												
1 A. M.			77°	78°				E^{d}.	3	Clear.	b. w.	
2 "			77	78								
3 "			77	78	77°	30·000	80° 72°					Water phosphorescent.
4 "			77	78								
5 "			77	78								
6 "			77	78								
7 "			77	78								Got under way.
8 "			80	79				E. N. E.	4			
9 "			81	80	80°	30·000	81° 72°			Cum.	b. c.	
10 "			81	80								Standing between Pilas and Kalubub Islands.
11 "			82	81								
12 "	6° 40′	121° 32′	82	81								Sounding frequently in from 6½ to 30 fms. water; coral and sand bottom.
1 P. M.			80	80								
2 "			80	80								
3 "			81	80		29·840	82° 70°					
4 "			81	80								
5 "			80	80						Clear.	b.	Boats ahead sounding.
6 "			80	80								Steering to the southward and westward.
7 "			80	80					3			
8 "			80	80							b. w.	No bottom with 58 fathoms.
9 "			80	79	76°	30·000	81° 72°					
10 "			79	80					2			Sooloo Island in sight.
11 "			76	80								Anchored in 27 fms. water.
12 "			79	80								Sea smooth and water phosphorescent.
Mean.			79·21	79·42	77·66	29·960						
Feb. 3.												
1 A. M.			79°	80°				E^{d}.	1	Clear.	b. w.	
2 "			79	80				Calm.	0			
3 "			78	80		30·000	81° 73°					
4 "			78	80								
5 "			78	80				E. N. E.	1			
6 "			80	80								Got under way, standing for the island of Sooloo.
7 "			82	81								
8 "			83	81								
9 "			84	81		29·980	81° 72°		2			
10 "			83	80								
11 "			83	80								
12 "			82	80				Calm.	0			Porpoises, sharks, whales, and devil-fish seen.
1 P. M.			80	82				East.	1			
2 "			81	82						Nimbus	c.	
3 "			80	79		29·980	82° 72°	E. S. E.	2			Several islands in sight.
4 "			80	79								
5 "			79	79								Anchored in 26 fms. water.
6 "			79	79								
7 "			78	78				Calm.	0			
8 "			77	78							r.	
9 "			76	78		29·980	Rain.	East.	1			
10 "			76	78							p.	Water very phosphoreseent.
11 "			76	78				Calm.	0			
12 "			76	78				E^{d}.	1			Rain ·11 in.
Mean.			79·46	78·79		29·985						

U. S. SHIP VINCENNES.

SOUNG, ISLAND OF SOOLOO.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 4.												
1 A. M.			76°	78°				Calm.	0	Cum.	b. c. w.	
2 "			76	78								Whales about the
3 "			76	78		30·000	82° 73°			Clear.	b. w.	ship.
4 "			76	78								
5 "			76	78								
6 "			76	78								
7 "			78	78				E^{d}.	1			
8 "			80	82							b.	
9 "			82	82	80°	29·940	84° 73°					Got under way and
10 "			82	82				Calm.	0			towed the ship to
11 "			81	82								Soung Harbour, an-
12 "			81	82						Nimbus	b. c.	choring in 7 fathoms
1 P. M.			84	81						over the		water.
2 "			83	81						land.		Employed surveying.
3 "			83	80	80°	29·960	82° 72°	N. E^{d}.	1			
4 "			82	79							c.	
5 "			81	79								
6 "			81	79								
7 "			80	79							c. p. d.	
8 "			78	79						Cirrus.	b. c.	
9 "			77	80	76°	29·980	84° 80°	Calm.	0		b. c. w.	
10 "			77	80						Clear.	b. w.	
11 "			77	80								
12 "			77	80								
Mean.			79·16	79·71	78·66	29·970						
Feb. 5.												
1 A. M.			76°	79°				Calm.	0	Clear.	b. w. l.	
2 "			76	79								
3 "			76	79	75°	29·980	83° 78°					
4 "			76	79								
5 "			76	79								
6 "			76	79							b.	
7 "			77	79								
8 "			78	79								
9 "			81	80	80°	29·980	84° 76°	N^{d}.	1			
10 "			83	80								Boats surveying.
11 "			83	80								
12 "			85	80				N. E^{d}.	2	Nimbus	b. c. n.	
1 P. M.			84	81						in the		
2 "			80	81						west.		
3 "			79	81	79°	29·960	80° 76°					
4 "			81	80					1	Cir.cum	b. c.	
5 "			81	80				Calm.	0			
6 "			79	80								
7 "			79	80				E^{d}.	1	Clear.	b. w.	
8 "			79	80					2			
9 "			77	79	78°	29·960	80° 76°	N. E^{d}.	1			
10 "			77	78								
11 "			77	80								
12 "			78	80								
Mean.			78·91	79·66	78	29·970						

Harbour of Soung, 6° 01′ 00″ — 120° 55′ 51″

U. S. SHIP VINCENNES.

FROM SOUNG TO MANGSEE ISLANDS.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 6.												
1 A. M.			77°	81°				N. E^{d}.	1	Clear.	b. w.	
2 "			77	81								
3 "			77	81	77°	29·960	80° 72°			Cum.	b. c. w.	
4 "			77	81								
5 "			78	80								
6 "			78	80				N^{d}.			b. c.	
7 "			78	80								Got under way and stood to the northward and westward.
8 "			81	80					2			
9 "			81	80	80°	29·960	82° 74°	N. E^{d}.	3			
10 "			84	80								Sooloo and several small islands in sight.
11 "			84	80								
12 "	6° 07′	120° 40′	84	81					4	Clear.	b.	
1 P. M.			83	82								
2 "			83	82								
3 "			83	82	82°	29·980	81° 74°					
4 "			83	82								Lost sight of land.
5 "			81	81								Course N. W. by W.
6 "			80	81								
7 "			81	82							b. w.	Sounding every 20 minutes, with from 20 to 40 fathoms; no bottom.
8 "			80	82								
9 "			80	82	80°	30·000	81° 76°		3			
10 "			80	81				N.E.by N			b. w. l.	
11 "			79	81								
12 "			79	81								
Mean.			80·33	81	79·75	29·975						
Feb. 7.												
1 A. M.			80°	81°				N. N. E.	3	Clear.	b. w. l.	Course N. W. by W.
2 "			80	81								
3 "			80	81	78°	30·020	81° 73°					No bottom with 35 fathoms.
4 "			79	81								
5 "			79	81				N. by E.	4			
6 "			80	81							b.	
7 "			80	81								
8 "			81	81								
9 "			81	81		30·020	81° 74°			Cum.	b. c.	Cagayan Sooloo, in sight to the westward; also the small island of Kenaporan.
10 "			82	81								
11 "			82	82								
12 "	7° 03	118° 49′	82	82				N. N. E.				
1 P. M.			82	82								Sounding in from 35 to 40 fathoms; no bottom.
2 "			82	82								
3 "			81	82		30·000	80° 75°					
4 "			81	81				N. E.	3			
5 "			80	81								
6 "			80	81					4	Clear.	b.	Sounded in 40 to 53 fathoms water coral and fine sand.
7 "			80	81				N.E.byE.				
8 "			80	81					3		b. w.	
9 "			80	81		30·000	80° 76°					Course N. N. W.
10 "			80	81								
11 "			80	81								
12 "			79	81								A meteor fell to the north.
Mean.			80·46	81·21	78	30·010						

U. S. SHIP VINCENNES.

FROM SOUNG TO MANGSEE ISLANDS.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 8.												
1 A. M.			80°	81°				N. E.	3	Clear.	b. w.	
2 "			80	81						Nimbus	c. u. w.	Anchored in 21 fms. water; muddy bottom.
3 "			80	81	80°	30·000	80° 76°	N. N. E.				
4 "			80	81					7		q. d.	
5 "			80	81					5		q. p. d.	
6 "			80	81					4	Stratus.		Rain ·01 in.
7 "			80	81				N. E.		Cum. st.	b. c.	Got under way.
8 "			81	81					5			
9 "			81	81	81°	30·020	82° 74°		6			Balabac, Banguey, Balambangan, and the Mangsee Islands in sight.
10 "			81	81					5			
11 "	7° 30′ 00′	117° 19′ 00′	81	81					4			
12 "			82	81								
1 P. M.			82	81								Steering to the N. W.
2 "			82	81					3			Several reefs and sand-banks near us.
3 "			81	81		30·000	80° 74°			Cum.		
4 "			81	81								Sounding in from 20 to 40 fathoms water; fine white sand.
5 "			80	80								
6 "			80	80					4			
7 "			80	80							b. c. w.	At 3 P. M. anchored in 36 fathoms water; boats surveying.
8 "			80	80					6			
9 "			80	80	79°	30·000	80° 76°					
10 "			80	80					5	Clear.	b. w.	
11 "			79	77								
12 "			79	77								
Mean.			80·42	80·42	80	30·005						
Feb. 9.												
1 A. M.			80°	79°				N. E.	4	Clear.	b. w.	
2 "			80	79								
3 "			79	79	70°	30·020	Rain.			Nimbus	c. p.	
4 "			78	79								
5 "			78	79					5			At anchor in the Straits of Balabac.
6 "			76	77								
7 "			78	79					9		q. p.	
8 "			78	79					5			
9 "			79	79	78°	30·000	Rain.					
10 "			79	79					4			
11 "			78	79								Boats sounding.
12 "			78	79					8			
1 P. M.			75	79					4			
2 "			75	79								
3 "			78	79	78°	29·980	Rain.		6			
4 "			78	79					4			Rain ·29 in.
5 "			77	77							b. c.	
6 "			76	79						Cir.cum		
7 "			75	79					6			
8 "			78	79								
9 "			78	79	77°	30·000	80° 76°					
10 "			78	79								
11 "			78	79								
12 "			78	79								
Mean.			77·71	78·83	75·75	30·000						

Mangsee Island, Straits of Balabac.

U. S. SHIP VINCENNES.

MANGSEE ISLANDS.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 10.												
1 A. M.			78°	79°				N. E^{d}.	6	Nimbus	c. u.	
2 "			78	79								
3 "			78	79	77°	30·000	79° 76°	E. N. E.	7		p. q.	
4 "			78	79				N. E.	5			
5 "			77	79								
6 "			76	79					4		r.	
7 "			75	79								
8 "			76	79								
9 "			78	79	78°	30·000	Rain.		5		p.	Boats employed surveying.
10 "			79	79				N. N. E.				
11 "			79	79								Rain ·21 in.
12 "			79	79							b. c.	
1 P. M.			80	79				N. E.				Made magnetic observations of the beach of Banguey.
2 "			79	79								
3 "			80	79	79°	29·900	81° 78°	E. N. E.				
4 "			80	79							c. p. d.	
5 "			79	79								
6 "			79	79					4			
7 "			79	79				N. E.	5			
8 "			79	79							c. w.	
9 "			79	79		30·000			4			
10 "			79	79						Cir.cum	b. c.	
11 "			79	79								
12 "			79	79					6			
Mean.	7° 30′ 00″ Mangsee Island, Straits of Balabac.	117° 19′ 00″	78·42	79	78	29·975						
Feb. 11.												
1 A. M.			79°	79°				N. E.	6	Cum.	b. c. w.	
2 "			79	79								
3 "			79	79	78°	30·000	78° 74°					
4 "			79	79								
5 "			79	79					5			
6 "			79	79							b. c.	
7 "			79	79								
8 "			79	79				E. N. E.		Nimbus	c.	
9 "			80	79	79°	29·960	81° 76°				p.	Rain ·05 in.
10 "			77	80					4			Employed surveying the straits, &c.
11 "			78	80							b. c.	
12 "			80	80								
1 P. M.			80	80						Clear.	b.	
2 "			80	80								
3 "			80	80	80°	29·960	81° 76°					
4 "			80	80				N. E.				
5 "			80	80						Cir.cum	b. c.	
6 "			80	80								
7 "			80	80						Clear.	b. w.	
8 "			79	80								
9 "			79	80	78°	29·960	81° 78°					
10 "			79	80						Cum.	b. c. w.	
11 "			80	80					5			
12 "			80	80								
Mean.	Mangsee Island, Straits of Balabac.		79·33	79·62	78·75	29·970						

U. S. SHIP VINCENNES.

FROM MANGSEE ISLANDS TO SINGAPORE.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 12.												
1 A. M.			79°	79°				N. Ed.	5	Cum.	b. c. w.	
2 "			79	79								
3 "			79	79	78°	29·980	80° 76°					
4 "			79	79								
5 "			79	79							b. c.	
6 "			79	79								
7 "			79	79				E. N. E.		Clear.	b.	
8 "			79	79								Finished the survey
9 "			81	80	80°	29·960	81° 75°		4			of the Straits.
10 "			82	80						Cir. stra.	b. c.	
11 "			81	81						Over-	o.	
12 "	7° 30′	117° 20	82	81						cast.		
1 P. M.			81	81								
2 "			81	81					3			Got under way.
3 "			81	81	81°	29·940	80° 76°	East.				
4 "			80	81					4			
5 "			79	80								Course west.
6 "			78	80						Cir. stra.	b. c.	
7 "			79	79								Banguey Peak bore
8 "			78	79				E. N. E.			b. c. w.	S. by W.
9 "			78	79	78°	29·900	80° 76°					
10 "			78	79								
11 "			78	79								Sounding in from 20
12 "			78	79								to 30 fathoms water.
Mean.			79·46	79·66	79·25	29·945						
Feb. 13.												
1 A. M.			78°	80°				E. N. E.	4	Cir. stra.	b. c. w.	Course west.
2 "			78	80								
3 "			77	79	78°	29·940	80° 76°					No bottom in 30 fms.
4 "			77	79				East.				water.
5 "			79	79								
6 "			79	80					3		b. c.	A long swell from the
7 "			80	80								eastward.
8 "			80	81								
9 "			81	81	80°	30·000	81° 77°					
10 "			84	81				E. N. E.		Over-	o.	Course N. W.
11 "			84	81					4	cast.		Flying-fish seen in
12 "	7° 36′	115° 08′	84	81					3			great numbers.
1 P. M.			80	81								Course W. S. W.
2 "			80	81								
3 "			81	81	81°	29·920	81° 76°	E. by N.		Cum.	b. c.	
4 "			80	81								
5 "			80	81					4			
6 "			80	81								
7 "			80	81								Sounding in from 25
8 "			80	81								to 30 fathoms; no
9 "			80	81	80°	29·920	81° 76°	N.E.byE.		Clear.	b. w.	bottom.
10 "			80	81								Course S. W. by S.
11 "			80	81						Cum.	b. c.	
12 "			80	81								
Mean.			80·08	80·58	79·75	29·945						

U. S. SHIP VINCENNES.

FROM MANGSEE ISLANDS TO SINGAPORE.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 14.												
1 A. M.			79°	81°				N. E.	4	Cum.	b. c. w.	Course S. W. by S.
2 "			79	81					5			
3 "			79	81	77°	29·920	81° 78°					Sounding with 30 fms. line; no bottom.
4 "			77	81								
5 "			78	81				E. by N.				Course W. by S.
6 "			78	81				N.E.byE.	4		b. c.	
7 "			80	81								
8 "			80	81								
9 "			82	81	81°	29·900	81° 76°					Water deep blue.
10 "			82	81						Clear.	b.	
11 "			83	81								
12 "	6° 50′	112° 53′	83	82								
1 P. M.			82	82				N. E.	5			
2 "			82	82								Gannets and boobies seen.
3 "			81	82	81°	29·900	81° 76°		4			
4 "			81	81								
5 "			81	81				E. N. E.				
6 "			80	81						Cum.	b. c.	
7 "			80	81				N.E.byE.			b. c. w.	
8 "			80	81								
9 "			79	81	78°	29·940	81° 78°		3	Clear.	b. w.	
10 "			79	81				N.E.byN				
11 "			79	81								
12 "			79	81								
Mean.			80·12	81·16	79·25	29·915						
Feb. 15.												
1 A. M.			80°	80°				N. N. E.	3	Clear.	b. w.	Course W. by S.
2 "			79	80								
3 "			78	79	76°	30·000	81° 76°					
4 "			78	79				N. E.				Shoal of porpoises.
5 "			78	79							b.	
6 "			79	79								
7 "			79	80						Cum.	b. c.	
8 "			79	80				E. N. E.				
9 "			80	80	80°	30·000	81° 76°					
10 "			80	80								
11 "			80	80				East.				
12 "	6° 35′	110° 29′	80	80								
1 P. M.			80	81						Clear.	b.	Course S. W. by W. ½ W.
2 "			80	81								
3 "			80	80	81°	29·980	81° 74°	E. N. E.				
4 "			80	80					2			Passed two trees that appeared as if they had been in the water for some time.
5 "			80	80								
6 "			80	80								
7 "			79	80				N. E.	3	Cir.cum	b. c.	
8 "			78	80								
9 "			78	80	77°	30·000	80° 76°	E. S. E.				
10 "			79	80								
11 "			78	80				E. N. E.				
12 "			79	80								
Mean.			79·21	79·92	78·5	29·995						

U. S. SHIP VINCENNES.

FROM MANGSEE ISLANDS TO SINGAPORE.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Diree.	Force.	Clouds.	Weather.	Remarks.
Feb. 16.												
1 A. M.			79°	80°				N. by E.	2	Clear.	b.	Course S. W. by W. ½ W.
2 "			79	80					3			
3 "			78	80	77°	30·000	80° 76°					
4 "			78	80					2			
5 "			78	80				E. N. E.				
6 "			78	80								School of porpoises seen.
7 "			78	80								
8 "			80	80				N. E.		Over-	o.	
9 "			80	80	81°	30·000	81° 76°			cast.		
10 "			80	80					3			
11 "			81	81								
12 "	5° 48′	108° 43′	80	81				North.				Water light blue.
1 P. M.			80	81						Cir. stra.	c.	
2 "			80	81				N. N. E.				
3 "			80	81	79°	30·000	81° 76°					
4 "			79	81								Course W. by S.
5 "			79	81								Passed some sea-weed.
6 "			79	81				N. E^{d}.				
7 "			79	81					4	Nimbus	b. c.	
8 "			79	81								
9 "			79	80	79°	30·000	81° 76°					
10 "			78	80								Course W. ½ N.
11 "			77	79								
12 "			77	79								Water phosphorescent.
Mean.			78·96	80·29	79	30·000						
Feb. 17.												
1 A. M.			78°	80°				North.	4	Nimbus	b. c.	Course W. S. W.
2 "			78	80								Water phosphorescent.
3 "			77	80	77°	30·000	81° 74°	N. E.				
4 "			77	79				N. by W.				Course S. W.
5 "			77	79				N. N. E.		Clear.	b.	
6 "			77	79								
7 "			78	79								Saw a barque and brig.
8 "			79	79								
9 "			79	79	80°	30·000	81° 76°		3	Cum. st.	b. c.	
10 "			81	80								
11 "			81	80								
12 "	4° 50′	106° 38′	81	80								
1 P. M.			80	80								
2 "			80	80					4			
3 "			81	80	80°	29·980	82° 76°	North.				
4 "			80	80						Nimbus	c. u.	
5 "			79	80								Sounded in 45 fms.; muddy bottom.
6 "			79	80				N. N. E.	6		q. p.	
7 "			77	80					5			Rain ·09 in.
8 "			77	80				N.E.by N		Cum.	b. c.	
9 "			78	80	78°	30·000	81° 76°					
10 "			78	80				North.				
11 "			78	80								
12 "			78	80								
Mean.			78·66	79·75	78·75	29·995						

U. S. SHIP VINCENNES.

FROM MANGSEE ISLANDS TO SINGAPORE.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 18.												
1 A. M.			78°	80°				N.N.E.	5	Cum.	b. c.	Course S. W.
2 "			78	80								
3 "			78	80	78°	30·000	80° 76°					
4 "			78	80								
5 "			79	80				N. E.		Cum. st.	c.	
6 "			78	80								
7 "			78	80					4			Water light blue.
8 "			79	80								
9 "			79	80	79°	30·020	81° 76°					Course S. by W.
10 "			80	81								
11 "			81	81				N. by E.				
12 "			82	81				North.				Pulo Aor, and Pulo Pedang in sight to the southward.
1 P. M.	2° 59′	104° 45′	80·5	81								
2 "			80·5	81					5			
3 "			81	81	80°	29·920	81° 71°	N. by E.				Course south.
4 "			81	81								Land in sight.
5 "			80	81							b. c.	Course S. by W.
6 "			80	81								
7 "			80	81					4			Sounding in from 12 to 29 fms.; blue mud and shells.
8 "			80	81								
9 "			79	81	82°	30·000	80° 76°					
10 "			79	81								
11 "			79	81								Hove to.
12 "			79	81								
Mean.			79·46	80·62	79·75	29·985						
Feb. 19.												
1 A. M.			80°	81°				N. by E.	4	Cum. st.	b. c.	Standing to the eastward under easy sail.
2 "			78	80								
3 "			79	80		30·000	79° 74°					
4 "			79	80				N.N.E.				
5 "			79	81					5			Land (Malay) in sight to the southward.
6 "			80	81								
7 "			81	81								Course south.
8 "			81	81								Passed several junks.
9 "			82	82		30·000	82° 72°	North.	7			
10 "			81	80								Standing in for Singapore Roads.
11 "			83	82					6			
12 "			82	81								
1 P. M.			84	82						Cirrus.		
2 "			84	82				N. N. E.	5			
3 "			83	81		29·960	82° 74°					Anchored in 8 fms. water; found the Porpoise, Oregon, and Flying-Fish at anchor.
4 "			82	81						Clear.	b.	
5 "			82	81					4			
6 "			82	81								
7 "			82	81						Nimbus	b. c.	
8 "			81	81								
9 "			81	82	79°	29·980	81° 76°		3			
10 "			80	82								
11 "			78	82								
12 "			78	82								
Mean.			80·91	81·16	79	29·985						

Singapore Roads, 1° 17′ 00′ — 103° 51′ 00′

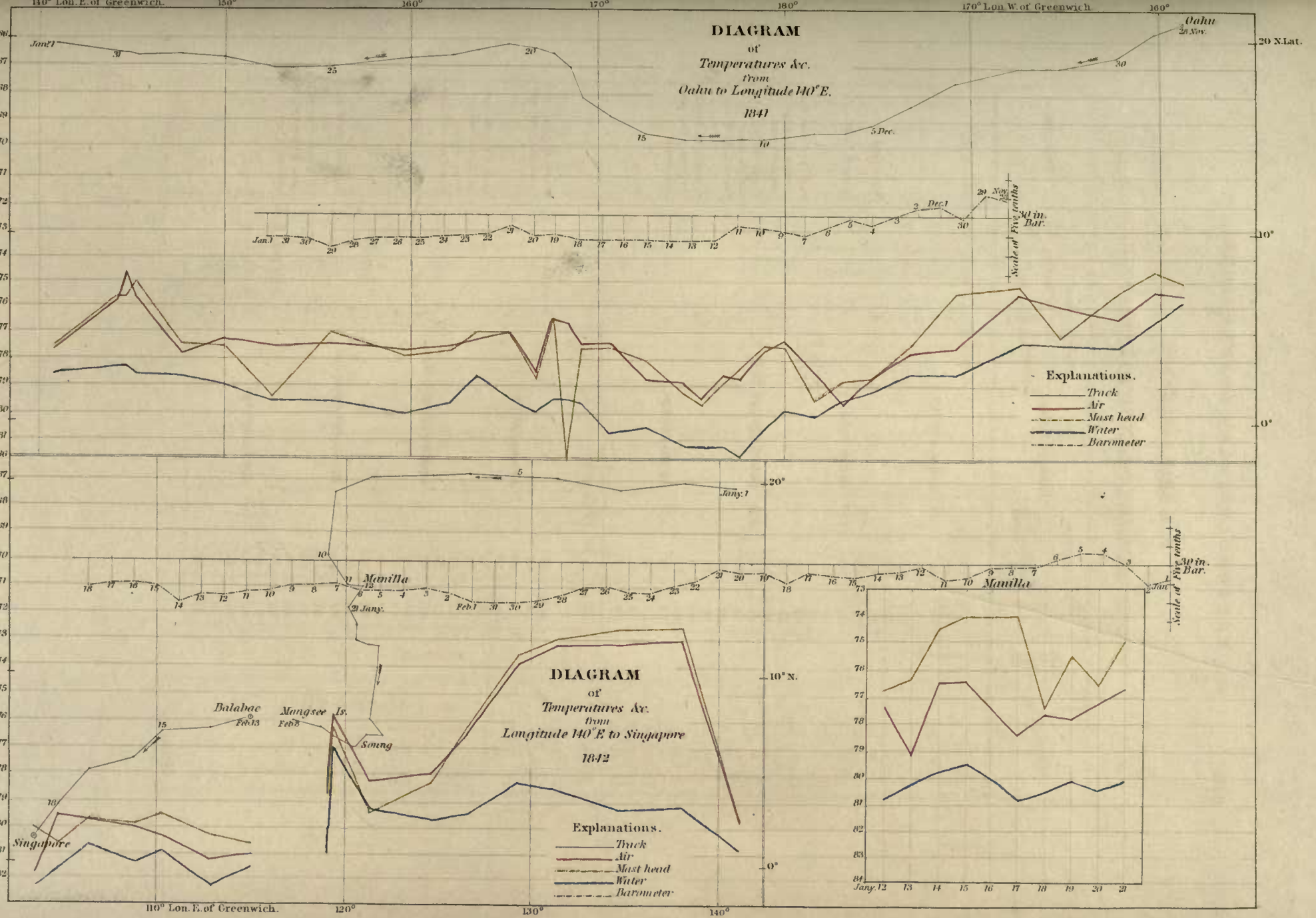


DIAGRAM
of
Temperatures &c.
from
Oahu to Longitude 140° E.
1841
140° Lon. E. of Greenwich.
170° Lon. W. of Greenwich.
Oahu
20 N. Lat.
Jan. 1
5 Dec.
Dec. 1
Nov.
30 in. Bar.
Scale of Five tenths
Explanations.
Track
Air
Mast head
Water
Barometer
DIAGRAM
of
Temperatures &c.
from
Longitude 140° E to Singapore
1842
Manilla
Jany. 1
21 Jany.
Feb. 1
Jan.
Balabac
Feb. 13
Mongsee Is.
Feb. 8
Soung
Singapore
10° N.
110° Lon. E. of Greenwich.
120°
130°
140°

U. S. SHIP VINCENNES.

SINGAPORE ROADS.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Diree.	Force.	Clouds.	Weather.	Remarks.
Feb. 20.												
1 A. M.			81°	82°				N^{d}.	3	Over-	o.	
2 "			81	82						cast.		
3 "			80	82	77°	30·020	81° 76°		2			
4 "			79	82								
5 "			79	82								
6 "			79	82				N.N.W.	4	Cum. st.	b. c.	
7 "			78	82								
8 "			77	81								
9 "			77	81		29·940	82° 74°					
10 "			77	81				North.	3			
11 "			77	81					2			
12 "			76	81				N. N. E.				An English barque and two Chinese junks arrived.
1 P. M.			75	82								
2 "			75	82					4	Nimbus	c.	
3 "			75	82	77°	29·980	82° 76°	N. E.				
4 "			75	82								
5 "			75	82								
6 "			75	82							p.	
7 "			77	82								
8 "			77	82				North.		Cir.cum	b. c.	
9 "			75	82		29·940	81° 76°		2			
10 "			75	82								
11 "			75	82								
12 "			77	82								
Mean.			76·96	81·79	77	29·970						
Feb. 21.												
1 A. M.			76°	82°				N.N.E.	2	Cir. stra.	b. c.	
2 "			76	82								
3 "			75	81	74°	29·960	81° 76°					
4 "			74	81						Over-	o.	
5 "			74	81				N. E.		cast.		
6 "			76	81								
7 "			78	81								
8 "			78	81								
9 "			79	81		29·960	81° 76°		3			
10 "			80	81						Nimbus	c.	Boats dredging for shells.
11 "			80	82								
12 "			80	82				N.N.E.				
1 P. M.			83	82					4			
2 "			83	82					6			
3 "			83	82	77°	29·980	81° 76°					
4 "			79	82								
5 "			79	82								
6 "			79	82					5	Cir.cum	b. c.	
7 "			79	82								
8 "			81	82				North.				
9 "			80	81	77°	30·000	81° 76°		4			
10 "			80	81					2			
11 "			79	81								
12 "			78	81								
Mean.			78·66	81·5	76	29·975						

U. S. SHIP VINCENNES.

SINGAPORE ROADS.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 22.												
1 A. M.			75°	82°				N^{d}.	2	Cir.cum	b.c.	
2 "			75	82								
3 "			75	82	76°	30·000	81° 76°					
4 "			75	82						Clear.	b.	
5 "			75	82					1			
6 "			75	82						Over-	o.	
7 "			75	82				N. E^{d}.		cast.		
8 "			76	81					4			
9 "			78	82	78°	29·980	81° 76°			Clear.	b.	
10 "			79	82								
11 "			80	82								
12 "			80	82								
1 P. M.			83	82				N. N. E.				
2 "			83	82								
3 "			85	81	78°	29·980	81° 76°					
4 "			85	81								
5 "			82	81								
6 "			82	81				N. E.	3			
7 "			80	81								
8 "			80	81						Cum.	b.c.	
9 "			79	80		30·020	80° 74°	North.	4			
10 "			78	80								
11 "			77	80						Cum. st.	c.	
12 "			76	80					3			
Mean.	Singapore Roads.		78·5	81·37	77·33	29·995						
Feb. 23.												
1 A. M.			78°	80°				North.	3	Cum. st.	b.c.	
2 "			78	80								
3 "			78	81	75°	30·020	80° 74°					
4 "			76	81								
5 "			76	81				N. E.	2			
6 "			76	81								
7 "			77	81						Clear.	b.	
8 "			77	81								
9 "			77	81	76°	29·980	82° 76°		4			
10 "			80	81								
11 "			81	81						Cum.	b.c.	
12 "			83	81				N. N. E.				
1 P. M.			84	81					3			
2 "			84	81								H. B M. Line-of-battle ship Wellesley arrived, 9 days from Canton.
3 "			83	81	82°	29·980	82° 76°					
4 "			83	81					4			
5 "			80	81				E N. E.				
6 "			79	81								
7 "			79	81								
8 "			79	81				N. E.				
9 "			79	81	78°	30·000	80° 74°					
10 "			78	81				North.	2			
11 "			78	81								
12 "			78	81								
Mean.			79·21	80·92	77·75	29·995						

U. S. SHIP VINCENNES.

SINGAPORE ROADS.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 24.												
1 A. M.			78°	81°				N. E^{d}.	2	Clear.	b.	
2 "			78	81								
3 "			78	81	75°	30·000	80° 76°					
4 "			78	81				N. N. E.				
5 "			76	81								
6 "			76	82					3			
7 "			79	82								
8 "			79	82					4			
9 "			79	82	81°	29·980	81° 76°					
10 "			79	82						Nimbus	c. u.	
11 "			79	82								
12 "			84	82								
1 P. M.			86	82					7		q. r.	
2 "			82	82								
3 "			82	82	80°	29·980	Rain.					
4 "			81	82					4			
5 "			80	82				North.		Cir.cum	b. c.	
6 "			79	82						Clear.	b.	
7 "			78	82								
8 "			76	82					3			
9 "			76	82	76°	30·000	81° 76°					
10 "			77	82				N. N. E.				
11 "			77	82					2			
12 "			77	82								
Mean.	Singapore Roads. 1° 17′ 00′	103° 51′ 00′	78·92	81·79	78	29·990						
Feb. 25.												
1 A. M.			76°	81°				N. by W.	2	Clear.	b.	
2 "			76	81								
3 "			76	81	76°	30·000	81° 76°		1			
4 "			76	81				N. N. W.				
5 "			76	81								
6 "			76	81								
7 "			77	81						Cir.cum	b. c.	
8 "			77	81				Calm.	0			
9 "			82	81		29·960	81° 74°			Nimbus	c.	
10 "			82	81				S. S. W.	1			
11 "			83	82				W. S. W.	2			
12 "			83	82							c. u.	
1 P. M.			83	82								
2 "			86	82							p.	
3 "			87	82	84°	30·000	Rain.				r.	
4 "			86	82					1			
5 "			84	81				Calm.	0			
6 "			82	81				N. E.	2		c.	
7 "			77	81						Cir. stra.		
8 "			77	82				Calm.	0			
9 "			77	82		30·000	80° 74°	N. N. E.	2	Clear.	b.	
10 "			78	82								
11 "			78	82								
12 "			77	81								
Mean.			79·66	81·42	80	29·990						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. North.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 26.												
1 A. M.			76°	81°				N. N. E.	2	Clear.	b.	
2 "			76	81								
3 "			76	81	74°	30·000	80° 74°					
4 "			76	81								
5 "			76	81								Got under way with the squadron in company.
6 "			76	81				North.		Cir.cum	b. c.	
7 "			76	81								Steering to the eastward.
8 "			77	81					2			
9 "			77	82	79°	29·960		N. by E.		Nimbus	c. u.	
10 "			79	82								Standing for the Straits of Rhio, land in sight both to the S. E. and S. W.
11 "			84	82					1			
12 "			85	82								
1 P. M.			78	82				N. N. W.			p.	
2 "			78	82								
3 "			80	82	80°	29·940			2			Steering to the southward.
4 "			80	82				N. W.				
5 "			80	82				N. E.				Sounding in from 10 to 18 fathoms water, sandy bottom.
6 "			79	82							c.	
7 "			79	82				North.	1			
8 "			79	82						Cir.cum	b. c.	Anchored in 22 fms. water, muddy bottom.
9 "			79	82	79°	30·000	80° 76°					
10 "			79	82				N. E.		Clear.	b.	
11 "			79	82					2			
12 "			79	82						Cir.cum	b. c.	
Mean.			78·46	81·06	78	29·975						
Feb. 27.												
1 A. M.			79°	81°				N. N. E.	2	Cir.cum	b. c.	
2 "			79	81								
3 "			79	81	78°	29·900	80° 74°			Nimbus	c.	
4 "			79	81								
5 "			79	81				E. S. E.	5		r. q.	Bingtang in sight to the eastward, and Sumatra to the westward.
6 "			79	81				E. N. E.	3		r.	
7 "			79	81				N. E.			c.	
8 "			77	81					4			
9 "			76	81	78°	29·940	Rain.				r.	Got under way, standing to the S. E.
10 "			76	81								
11 "			76	81					5			Anchored in 15½ fms. water; bottom sand.
12 "			76	81								
1 P. M.			78	81							p. d.	Steering to the eastward.
2 "			78	81								
3 "			80	81	79°	29·940	81° 74°			Cum. st.		Got under way.
4 "			80	81					4			Squadron in company.
5 "			81	81							b. c.	
6 "			79	81								
7 "			79	81						Nimbus		
8 "			79	81								
9 "			79	81	80°	30·000	79° 76°		6		q. p.	Kept the lead going in from 7½ to 20 fathoms water; mud and sand.
10 "			80	81					5			
11 "			78	81					7			
12 "			78	81					4			
Mean.			78 46	81	78·75	29·945						

Through the Straits of Rhio and Banca.

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Feb. 28.												
1 A. M.			77°	81°				N. E^{d}.	4	Nimbus	c.	Course S. by W.
2 "			78	81								
3 "			78	81	78°	30·000	79° 76°		3			
4 "			78	81								
5 "			78	81								
6 "			78	81								
7 "			78	81								Sounding in from 10 to 20 fathoms water; bottom sand, pebbles, and shells.
8 "			78	81				E. N. E.			c. p. d.	
9 "			79	81	79°	29·980	81° 76°					
10 "			79	81								Course south.
11 "			79	81						Clear	b. c.	Oregon and Porpoise in company.
12 "			79	81						over-head.		
1 P. M.			80	82								Course S. W.
2 "			79	82						Nimbus	p. c. d.	
3 "			79	82	79°	29·960	81° 76°					
4 "			79	82				N. N. E.	4			Lingin Island in sight to the westward.
5 "			78	82								
6 "			78	82								
7 "			79	82					3		c.	Course S. ¼ W.
8 "			79	82						Over-cast.	o.	
9 "			79	82	78°	30·000	81° 76°					
10 "			79	82								Sounding in from 11 to 14 fms. water.
11 "			79	82				North.	2		p. d.	
12 "			79	82							o.	
Mean.			78·58	81·5	78·5	29·985						
Mar. 1.												
1 A. M.			79°	81°				North.	2	Over-cast.	o.	Steering to the southward.
2 "			79	81								
3 "			79	81	78°	30·000						
4 "			79	81				Var.	1			Islands of Sumatra and Banca in sight.
5 "			79	81								
6 "			79	81						Cum.	b. c.	
7 "			79	81								
8 "			80	81				E. S. E.	3			
9 "			79	81	82°	30·000	81° 76°					
10 "			80	81						Clear.	b.	Passing through the Straits of Banca.
11 "			80	81				East.				
12 "	1° 55′		80	81				E. N. E.				Sounding in from 11 to 20 fathoms water; bottom blue mud.
1 P. M.			81	82								
2 "			79	82								
3 "			79	83	79°	29·980	82° 78°		4			Passed a Dutch ship.
4 "			80	83				N. E.				
5 "			80	83				N. N. E.		Cir.cum	b. c.	
6 "			80	83								
7 "			80	83								Anchored in 18 fms. water.
8 "			80	84				N. by W.			b. c. l.	
9 "			80	84	78°	30·000			3			
10 "			79	84						Nimbus	c. u. l.	
11 "			79	84								
12 "			79	84								
Mean.			79·5	82·12	79·25	29·995						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 2.												
1 A. M.			79°	81°				North.	3	Nimbus	r. t. l.	
2 "			79	81								
3 "			79	81	76°	30·000						
4 "			77	81					2			Rain ·49 in.
5 "			76	81							c.	
6 "			77	81				N. by E.		Cum. st.	b. c.	Got under way, with the Porpoise and Oregon.
7 "			77	81								
8 "			78	82				N. W.	3			
9 "			79	82	78°	30·000	81° 76°	NWbyW		Over-cast.	o.	
10 "			81	83								Standing through the Straits of Banca.
11 "			83	83				N. W.				
12 "	2° 33′		84	83								
1 P. M.			83	83								
2 "			82	83					4			Islands of Sumatra and Banca in sight.
3 "			80	83	84°	29·960	82° 76°					
4 "			80	83								
5 "			80	83						Cir.cum	b. c.	Spoka the English barque Jane, 38 days from Batavia, for Singapore.
6 "			80	83								
7 "			79	82					3			
8 "			79	82								
9 "			79	82	76°	30·000	80° 76°					Course S. S. E.
10 "			79	82								
11 "			79	82						Nimbus	c. u.	
12 "			78	82					2			
Mean.			79·46	82·08	78·5	29·990						
Mar. 3.												
1 A. M.			79°	81°				N. W.	2	Nimbus	c. u. t. l.	Steering to the southward.
2 "			79	81								
3 "			79	81	79°	29·860						
4 "			79	81								
5 "			79	82				W. N. W.				Porpoise and Oregon in company.
6 "			79	82								
7 "			76	82				NWbyW	3		r.	
8 "			76	82					4			Water olive-green; sounding in from 7 to 16 fathoms water.
9 "			76	82	76°	30·120	Rain.		5			
10 "			77	82				W. by N.				
11 "			78	82							c.	Rain ·39 in.
12 "	4° 40′	106° 21′	79	82					4			Course S. by W.
1 P. M.			79	83					3	Cir.cum	b. c.	
2 "			79	83				West.				
3 "			79	83	79°	30·080	82° 74°					
4 "			79	83								
5 "			80	83				N. W.	2	Clear.	b.	The Two Brothers Islands in sight to the southward.
6 "			79	83								
7 "			79	83					3			
8 "			79	83				North.		Over-cast.	o.	
9 "			79	83	79·5°	29·940	80° 76°					
10 "			79	83				N. by W.				Anchored in 11 fms. water; muddy bottom.
11 "			79	82								
12 "			79	82								
Mean.			78·54	82·25	78·37	30·000						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 4.												
1 A. M.			79°	83°				N. W^{d}.	2	Over-	o.	
2 "			79	83						cast.		
3 "			79	83	78°	29·900	80° 75°					
4 "			79	83								
5 "			79	82					3			Got under way, steering to the southward and westward.
6 "			79	82								
7 "			78	82								
8 "			78	82								Islands of Sumatra and the Two Brothers in sight.
9 "			78	83	78°	29·860	81° 76°					
10 "			80	83								
11 "			82	83				North.				Saw a vessel.
12 "	5° 28′	106° 00′	83	83					2	Clear.	b.	
1 P. M.			83	84					3			
2 "			83	84				Baffling.	2			Sumatra in sight to the N. W.
3 "			84	84	86°	29·900	82° 78°	S. E^{d}.		Cir.cum	b. c.	
4 "			83	84				Var.	1			
5 "			82	85								
6 "			82	84						Nimbus	c. u.	Anchored in 13 fathoms water, off Rajah Bassa.
7 "			82	84								
8 "			82	83				Calm.	0			
9 "			82	83	78°	30·000	82° 78°				r. t. l.	
10 "			82	83				Var.	1			
11 "			79	83							c.	
12 "			79	83				N^{d}.				
Mean.			80·66	83·16	80	29·915						
Mar. 5.												
1 A. M.			79°	83°				Calm.	0	Cir.cum	b. c. t. l.	
2 "			79	83				N. W^{d}.	1			
3 "			78	83	76°	29·960	81° 76°					
4 "			78	83								
5 "			78	83						Clear.	b.	
6 "			78	83								Got under way.
7 "			79	83				Calm.	0			
8 "			79	83				W^{d}.	1	Nimbus	c.	
9 "			81	83	82°	29·900	82° 76°					
10 "			85	84				Var.	4		q. p.	
11 "			80	84					1			Anchored in 25 fms. water, rocky bottom.
12 "			80	84					6 2			
1 P. M.			77	83					1		p.	
2 "			77	83								Got under way.
3 "			77	83	78°	29·800	81° 76°	Calm.	0			Sumatra in sight to the N. W.; Java to the S. E.
4 "			78	83				Var.	1			
5 "			78	83								
6 "			77	83							r.	Cama to in 16 fms. water, soft bottom.
7 "			77	83								
8 "			77	83				Calm.	0			
9 "			76	83	76°	29·840	Rain.					
10 "			76	83								
11 "			77	83				Var.	1			
12 "			77	83								
Mean.			78·25	83·12	78	29·875						

Straits of Sunda.

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 6.												
1 A. M.			78°	83°				Var.	1	Nimbus	c.	
2 "			78	83							p. d.	
3 "			77	83	77°	29·900	Rain.					
4 "			77	83							c.	
5 "			77	83								Got under way, course
6 "			78	83				N. W.	2			W. S. W.
7 "									3	Cir.cum	b. c.	
8 "			79	83								Island of Sumatra in
9 "			79	83	76°	29·920	82° 74°	North.				sight to the north-
10 "			77	83					1			ward.
11 "			78	83						Cum.	b. m.	
12 "			82	83								
1 P. M.			84	84				Calm.	0			
2 "			82	84						Cir.cum		
3 "			82	80	85°	29·940	81° 74°	N. E[d].	1			Pulo Bessy, Crocka-
4 "	Straits of Sunda.		82	80				Calm.	0			toa, and Sumatra in
5 "			80	84				N. E.	3	Nimbus	c. u.	sight.
6 "			79	84				N. N. E.	2			
7 "			79	84							r. q.	Course S. W. by W.
8 "			79	83				North.	3		p. q.	
9 "			79	83	78°	29·940	Rain.					
10 "			78	83				N. W.	5			
11 "			76	83					4		r. l.	Rain ·15 in.
12 "			76	83							p. l. d.	
Mean.			78·95	82·95	79	29·933						
Mar. 7.												
1 A. M.			79°	83°				NWbyW	4	Nimbus	p. d. l.	Course S. W.
2 "			79	83					6			
3 "			79	83	80°	29·940	81° 76°					
4 "			79	82							c.	
5 "			80	83								
6 "			81	83						Over-	o.	
7 "			81	83				N. W.		cast.		
8 "			82	83				NWbyW				
9 "			82	83	82°	29·940						Sea deep blue.
10 "			83	83						Cir. stra.	c.	
11 "			83	83								Many flying-fish
12 "	7° 30′	103° 42′	83	83								about.
1 P. M.			83	83					5			
2 "			79	83				W. N. W.	6			
3 "			80	82	79°	29·940				Nimbus		Brigs in sight astern.
4 "			80	82					4			
5 "			79	83								
6 "			78	83								
7 "			78	83				NWbyW	3			
8 "			76	80					4		c. l.	Steering to the south-
9 "			76	80		29·960		W. N. W.				ward and westward.
10 "			76	81				W. by N.			p. l.	Rain ·06 in.
11 "			76	82				W. N. W.			c. l.	
12 "			77	82								
Mean.			79·54	82·46	80·33	29·945						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 8.												
1 A. M.			79°	83°				N. W.	4	Nimbus	c. p. q.	Course S. W. by S.
2 "			78	83					7			
3 "			78	83	77°	30·000	Rain.		4			
4 "			77	83				W. N. W.	5			
5 "			79	83					s 5			
6 "			80	83								
7 "			80	83								
8 "			77	83					4			
9 "			79	83	80°	29·940	Rain.				r.	
10 "			79	83				N. W.	5			Parted company with the Oregon and Porpoise.
11 "			77	82								
12 "	10° 08′	102° 11′	76	82				NWbyW	6			
1 P. M.			76	82								Rain ·83 in.
2 "			76	82								Sea deep blue.
3 "			76	82	80°	29·800	Rain.					
4 "			76	82							c.	
5 "			76	83				N. W.		Cir.cum	b. c.	
6 "			78	83						Nimbus		
7 "			79	83						in hori-	p. d.	
8 "			78	82						zon.		
9 "			79	82	79°	29·840	Rain.		4		d.	
10 "			79	82					5		b. c.	
11 "			80	83								
12 "			80	83								
Mean.			78	82·62	79	29·895						
Mar. 9.												
1 A. M.			79°	82°				NW.byN	5	Nimbus	b. c.	Course S. W. by S.
2 "			79	82								
3 "			76	82		29·860	Rain.	N. N. W.	4		r.	
4 "			76	82							b. c.	
5 "			79	82						Cir.cum		
6 "			79	82				N. by E.				
7 "			78	82							b. c. q.	
8 "			80	82								
9 "			76	82	75°	29·880						
10 "			77	82					3	Nimbus		
11 "			79	82				N. E.		Over-	o.	
12 "	12° 35′	100° 41′	77	82						cast.	r.	
1 P. M.			80	82				N. N. E.	2			Saw some gannets and petrels.
2 "			76	82								
3 "			79	82	80°	29·880	Rain.	N.E.byN.		Cir.stra.	p. q.	
4 "			78	82				N. N. E.				Rain ·65 in.
5 "			79	82				N. by W.				
6 "			80	82				North.		Cir.cum	b. c.	
7 "			80	82				N. W.	5			
8 "			80	82						Nimbus		
9 "			79	82	77°	29·900	Rain.	NWbyW	3		p.	
10 "			79	82				N. N. W.				
11 "			79	82								
12 "			79	82								
Mean.			78·46	82	77·33	29·880						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 10.												
1 A. M.			79°	82°				N. N. E.	3	Nimbus	c.	Course S. W. by S.
2 "			79	82								
3 "			80	82	80°	29·900						
4 "			80	82							p.	
5 "			78	81				N. by W.		Cir.cum	b. c.	
6 "			78	81						Nimbus	c.	
7 "			78	81				N. E.				
8 "			78	81				N. N. W.			p.	
9 "			79	82	81°	29·900		North.			c.	
10 "			80	82								
11 "			81	82					4		p.	Temp. of water at 100 fathoms depth, 76°.
12 "	14° 22′	100° 04′	82	82				N. N. E.				
1 P. M.			79	81				N. E.				
2 "			79	81					3		c.	Sea blue.
3 "			80	81	81°	29·900	Rain.					
4 "			81	81								
5 "			78	81				N.E.by N				
6 "			77	81					2		r.	
7 "			76	80				E. N. E.				A vessel seen.
8 "			76	80							r. l.	
9 "			76	81	74°	29·900		East.	3			Rain ·5 in. temp. 76°.
10 "			76	81				E. N. E.		Cir. stra.	b. c.	
11 "			76	81							b. c. m.	
12 "			76	80				N.E.byE.	2	Over-cast.	o. m.	
Mean.			78·42	81·21	79	29·900						
Mar. 11.												
1 A. M.			78°	81°				N. E.	2	Over-cast.	m.	Course S. W. by S.
2 "			77	81								
3 "			77	80	76°	29·920		N. N. E.				
4 "			77	80				N.E.byE.				
5 "			77	80							p. d.	
6 "			77	80					3			
7 "			77	80				N. E.		Nimbus	c.	
8 "			77	80					4			
9 "			78	80	78°	29·920						
10 "			80	81				N.E.byE.		Cir.cum	b. c.	A long swell from the southward.
11 "			80	81								
12 "	15° 53′	99° 05′	81	81					3			
1 P. M.			80	81				E. N. E.	2	Cum.		Temp. water at 100 fathoms depth, 74°.
2 "			81	81					1			
3 "			82	82	82°	29·980	81° 76°					
4 "			80	82								
5 "			80	82				East.				
6 "			80	82					2			
7 "			80	82								
8 "			80	82				E. by N.	3			
9 "			80	81	79°	29·960	80° 74°		2			Course S. W. by W.
10 "			79	81						Clear.	b.	
11 "			79	81								
12 "			79	81						Cum.	b. c.	
Mean.			79	80·96	78·75	29·945						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 12.												
1 A. M.			78°	81°				E. N. E.	2	Cumulus	b. c.	Course S. W.
2 "			78	81								
3 "			78	81	78°	29·980	80° 76°					
4 "			78	81								
5 "			78	81					3			
6 "			78	81						Clear.	b.	
7 "			81	81								
8 "			82	80								
9 "			82	81	81°	30·000	80° 76°	East.				
10 "			82	81								
11 "			82	81					4			Water blue.
12 "	17° 05′	98° 04′	82	81					3			
1 P. M.			80	80								
2 "			79	81								
3 "			79	81	79°	30·000	81° 76°	S. E.	2			Took the S. E. trades.
4 "			79	80								Course west.
5 "			79	81				E. S. E.	3			
6 "			79	81				East.				
7 "			78	80								
8 "			78	80								
9 "			78	80	78°	29·980	80° 76°				b. w.	
10 "			78	80								
11 "			78	80					2			
12 "			78	80								
Mean.			79·25	80·62	79	29·990						
Mar. 13.												
1 A. M.			78°	79°				East.	2	Clear.	b. w.	Course west.
2 "			77	79								
3 "			77	79	77°	30·020	79° 74°	E. S. E.				
4 "			77	79								
5 "			78	79					3		b.	
6 "			78	80				S. E.		Cumulus	b. c.	
7 "			80	80								Passed an English barque.
8 "			80	80								
9 "			82	81	80°	30·000	80° 76°					
10 "			82	81				E. S. E.				
11 "			81	80								
12 "	17° 22′	96° 15′	81	80					4	Clear.	b.	
1 P. M.			80	81								
2 "			81	81					3	Cumulus	b. c.	Temp. water at 100 fathoms depth 74·5°.
3 "			81	81	78°	29·960	81° 76°	S.E. by E.				
4 "			80	81								
5 "			80	80				E. S. E.				
6 "			79	80						Clear.	b.	Course W. by S.
7 "			78	80								
8 "			78	80							b. w.	A long swell from the southward.
9 "			78	80	78°	29·940	80° 75°					
10 "			78	80								
11 "			78	80								
12 "			78	80								
Mean.			79·16	80·04	78·25	29·980						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 14.												
1 A. M.			79°	80°				E. by S.	3	Clear.	b. w.	Course W. by S.
2 "			79	80								
3 "			79	80	76°	29·960	79° 73°					
4 "			79	80								
5 "			79	80				S. E.				
6 "			79	80						Cumulus	b. c.	
7 "			80	80								
8 "			81	80					4			A barque in sight to the eastward.
9 "			81	80	*91°	29·980	79° 76°	E. S. E.				* In the sun.
10 "			81	80					3			
11 "			81	80								
12 "	17° 47′	94° 03′	81	80								
1 P. M.			81	80								
2 "			81	80				S. E.				
3 "			81	80	79°	30·000	80° 74°					Saw some flying-fish.
4 "			81	80								
5 "			80	80								
6 "			80	80					4			
7 "			79	79						Clear.	b.	
8 "			79	79				S.E. by E.				
9 "			79	79	78°	30·000	79° 75°					
10 "			79	79						Overcast.	o.	
11 "			79	79					3			
12 "			79	79								
Mean.			79·87	79·75	81	29·985						
Mar. 15.												
1 A. M.			78°	80°				S.E. by E.	3	Overcast.	o.	Course W. by S.
2 "			78	80								
3 "			78	79	77°	30·000	79° 74°					
4 "			78	79								
5 "			78	79				East.				A sail in sight to the eastward.
6 "			78	79								
7 "			78	79						Cir. stra.	c.	
8 "			80	80								
9 "			81	80	82°	30·000	79° 73°					
10 "			82	81				E. by N.				
11 "			82	81								
12 "	18° 13′	91° 50′	82	82								
1 P. M.			81	80				E. S. E.	2			
2 "			81	80								Two sails in sight to the westward.
3 "			81	80	81°	30·000	80° 76°					
4 "			81	80					3			Course W. ½ S.
5 "			80	81				S. E.		Overcast.	o.	
6 "			80	81								Saw many flying-fish.
7 "			78	80								
8 "			78	80				East.				
9 "			79	80	77°	29·900	79° 74°					
10 "			79	80				E. S. E.				
11 "			78	80						Cir. stra.	c.	
12 "			78	80								
Mean.			79·46	80·04	79·25	29·975						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 16.												
1 A. M.			78°	80°				E. ½ N.	2	Clear.	b.	Course W. ¼ S.
2 "			78	80								
3 "			78	80	75°	29·920	78° 74°	E. S. E.				
4 "			78	80								
5 "			78	80								
6 "			79	80				S. S. E.				
7 "			80	80								
8 "			80	80								
9 "			81	80	79°	29·920	80° 76°					
10 "			82	80				S. E.	1			
11 "			82	81								
12 "	18° 20′	90° 18′	82	82								
1 P. M.			81	82				S^{d}.				
2 "			81	82								Long swell from the eastward.
3 "			80	82	80°	29·940	81° 75°					
4 "			80	82								
5 "			80	82					2			Two sails in sight.
6 "			80	81								
7 "			79	80								
8 "			78	80						Cumulus	b. c.	Heavy swell from the S. W.
9 "			78	80	78°	29·960	79° 76°					
10 "			78	80						Nimbus.	c. u.	
11 "			78	80								
12 "			76	80					3			
Mean.			79·37	80·58	78	29·937						
Mar. 17.												
1 A. M.			74°	78°				South.	4	Nimbus.	q. p.	Course W. ¼ S.
2 "			76	78								
3 "			79	78	74°	29·900	78° 74°	S. W.	5			
4 "			77	78					7		c.	
5 "			74	80					4			Irregular long swell from the southward and westward.
6 "			76	80				South.		Overcast.	o. m.	
7 "			78	80					6			
8 "			79	80								
9 "			79	80	79°	29·940	80° 76°	S. by W.				Swell from the southward.
10 "			78	80							q. p. d.	
11 "			77	80					8			Course W. by S.
12 "	18° 36′	88° 09′	77	80					6			Passed an American ship and an English barque.
1 P. M.			78	80				South.				
2 "			78	80							o.	
3 "			78	80	75°	29·960	80° 76°		5	Cum. st.		
4 "			78	80								
5 "			78	80								
6 "			78	80								Long swell from the S. E.
7 "			76	80				S. by E.		Overcast.		
8 "			76	80								
9 "			77	80	76°	29·960	78° 75°	South.		Nimbus.		
10 "			77	80								Sea going down.
11 "			77	80								
12 "			78	80								
Mean.			77·21	79·66	76	29·940						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 18.												
1 A. M.			75°	80°				South.	5	Cum. st. and Nimbus.	b. c.	Course W. by S.
2 "			76	80								
3 "			77	80	75°	29·940	78° 74°					
4 "			77	80								
5 "			77	80								
6 "			77	80				S. by E.	4			Long swell from the S. W.
7 "			78	80								
8 "			78	80								
9 "			78	80	80°	29·960	80° 74°					
10 "			79	80						Cumulus and Cir. stra.		
11 "			80	80								
12 "	19° 09′	84° 54′	80	80								
1 P. M.												
2 "												
3 "					76°	29·960	81° 74°			Overcast.	o.	
4 "								S. E.				
5 "												
6 "									5			
7 "												A long swell from the southward.
8 "												
9 "					76°	29·960	78° 74°					
10 "												
11 "									6	Cir. stra.	c.	
12 "												
Mean.			77·66	80	76·75	29·955						
Mar. 19.												
1 A. M.			78°	80°				S. E.	6	Cir. stra.	c.	Course W. by S.
2 "			78	80								
3 "			77	80	76°	29·960	79° 75°	E. by S.	5			A long swell from the southward.
4 "			77	80								
5 "			77	80				S. E.				
6 "			77	80				E. S. E.				
7 "			77	80						Cirrus.	b. c.	
8 "			78	80					4			
9 "			78	80	78°	29·940	80° 70°					
10 "			78	80				E. by S.				
11 "			78	80								
12 "	19° 53′	82° 05′	78	80								
1 P. M.			80	80				E. N. E.	3	Cum. st.		
2 "			80	80								
3 "			79	80	77°	29·940	80° 70°					
4 "			79	80				East.				Heavy irregular sea from the S. S. W.
5 "			79	80								
6 "			79	80								
7 "			78	79				N. E.				
8 "			78	79						Clear.	b.	
9 "			78	79	76°	29·930	78° 70°	N. N. E.	2			
10 "			78	79				N. E.	3			
11 "			78	79				N. N. E.				
12 "			78	79					4			
Mean.			78·12	79·75	76·75	29·942						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 20.												
1 A. M.			78°	79°				N. N. E.	4	Clear.	b.	Course W. by S.
2 "			78	79								
3 "			78	79	75°							
4 "			78	79					5			
5 "			78	80								Swell from the south-ward, going down.
6 "			78	80						Nimbus.	c.	
7 "			78	80								
8 "			78	80						Overcast.	o.	
9 "			80	80	79°				6			
10 "			82	80								
11 "			81	80				North.			q. p.	Ship in sight.
12 "	20° 33′	79° 28′	80	80								
1 P. M.			76	80				N. N. W.				Steering to the south-ward and westward.
2 "			76	80					7		o.	
3 "			76	80	80°			W. N. W.				A long heavy swell from the S. W.
4 "			76	80					6			
5 "			80	80				W. by S.				
6 "			79	80						Clear.	b.	
7 "			79	80				W. S. W.	5			
8 "			79	80								Steering to the south-ward.
9 "			78	80	75°						b. l.	
10 "			78	80							b.	
11 "			78	79								
12 "			76	77						Cumulus	b. c.	
Mean.			78·25	79·66	77·25							
Mar. 21.												
1 A. M.			76°	78°				W. by S.	5	Cir. stra.	b. c.	Steering to the south-ward and westward.
2 "			76	78								
3 "			76	78	75°			West.				
4 "			76	78					6			
5 "			75	78								
6 "			75	78								Passed a ship steering to the S. W.
7 "			76	78								
8 "			78	78				W. by N.				
9 "			78	79	*81°					Cum. st.		* In the sun.
10 "			78	79					5			
11 "			78	79								
12 "	22° 31′	79° 07′	79	79				West.	6			Heavy sea from the S. W.
1 P. M.			78	77								
2 "			78	78						Nimbus.	c.	
3 "			78	78	79°							
4 "			78	78								
5 "			78	78				W. ½ S.		Cir. cum.		
6 "			77	78					5			
7 "			76	76								
8 "			76	76				W. N. W.	7			
9 "			76	76	75°				6			
10 "			76	76								
11 "			76	76								
12 "			76	76					4			
Mean.			76·83	77·62	77·5							

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 22.												
1 A. M.			76°	76°				NW by W	4	Cir. cum.	c.	Steering to the S. W.
2 "			75	76								
3 "			75	76	74°	29·840	79° 72°					
4 "			75	76				W. N. W.		Nimbus.	c. u.	Heavy sea from the
5 "			75	76						Overcast.	o.	S. W.
6 "			74	76				West.	7		q. p.	
7 "			74	76					4			
8 "			75	76				W. N. W.	8			
9 "			76	76	75°	29·880	80° 74°		4		c.	
10 "			75	76								Steering to the north-
11 "			75	76					3			ward and westward.
12 "	23° 47′	78° 23′	74	76							q. p.	
1 P. M.			76	77				W. ½ S.		Nimbus.	c.	
2 "			75	77				W. by S.				
3 "			76	77	75°	29·880	78° 73°			Cum. st.	c.	
4 "			76	77				W. S. W.		Overcast.	p.	
5 "			76	76					2		o.	
6 "			71	76						Cir. stra.	c.	
7 "			74	76				Calm.	0			
8 "			74	76				S. W.	2			Heavy sea from the
9 "			74	76	74°	29·900	78° 70°	S. S. W.		Cir. cum.	b. c.	southward.
10 "			74	76								
11 "			74	76				South.				Course W. by N.
12 "			74	76								
Mean.			74·71	76·16	74·5	29·875						
Mar. 23.												
1 A. M.			74°	76°				S. by W.	3	Cir. cum.	b. c.	Course W. by N.
2 "			74	76								
3 "			74	76	72°	29·880	78° 70°	S. S. W.				
4 "			74	76					4			
5 "			73	76								
6 "			73	76								
7 "			74	76						Clear.	b.	
8 "												
9 "			75	77	75°	30·040	78° 68°	S. by W.		Cumulus	b. c.	Heavy sea from the
10 "			76	77					5			southward.
11 "			76	77								
12 "	23° 08	76° 09′	75	77				South.				Entered the southeast
1 P. M.			74	76								trades.
2 "			74	76								
3 "			74	76	74°	30·040	78° 70°					
4 "			74	76								
5 "			74	76				S. S. E.				
6 "			74	75								
7 "			74	75								
8 "			74	75				S. E.				Sea going down gra-
9 "			74	75		30·100	78° 70°					dually.
10 "			74	75								
11 "			74	74								
12 "			74	74					4			
Mean.			74·17	75·79	73·66	30·015						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 24.												
1 A. M.			74°	75°				S. E.	4	Cumulus	b. c.	Course W. by N.
2 "			74	75					5			
3 "			74	75	74°	30·100	78° 70°					
4 "			74	75				S. by E.				
5 "			75	76					6			
6 "			76	76					5			
7 "			76	76				S. S. E.				
8 "			76	76					6			Sea from the south-eastward.
9 "			76	76	75°	30·120	77° 70°					
10 "			76	76				S. E.		Clear.	b.	
11 "			76	76								
12 "	22° 48′	71° 41′	76	76								
1 P. M.			76	79								Course west.
2 "			76	79				S. S. E.	7			
3 "			76	79	76°	30·100	78° 70°			Cumulus	b. c.	Water deep blue.
4 "			76	78								
5 "			75	78					6			
6 "			75	78								Sea going down.
7 "			75	78								
8 "			75	78				S. E.				
9 "			74	78	73°	30·100	78° 72°					
10 "			74	77								
11 "			74	77					5			
12 "			74	77								
Mean.			75·12	76·83	74·5	30·105						
Mar. 25.												
1 A. M.			76°	78°				S. E.	5	Cumulus	b. c.	Course west.
2 "			76	78								
3 "			75	78	75°	30·120	77° 70°					
4 "			76	78					6			
5 "			74	76					7			
6 "			74	76						Cum. st.		
7 "			74	76				S.E.by E.				
8 "			74	76					6			
9 "			76	76	76°	30·120	78° 70°					Moderate sea from the S. E.
10 "			76	76								
11 "			76	76				S. E.				
12 "	23° 16′	68° 43′	76	76								
1 P. M.			75	76							c. p. d.	
2 "			75	76								Water deep blue.
3 "			75	76	75°	30·120	78° 70°	S. S. E.				
4 "			75	76								
5 "			76	77				S. by E.			b. c.	
6 "			76	77								
7 "			76	77				S.E. by S.	7			
8 "			76	77								
9 "			76	77	75°	30·160	76° 68°	S. E.			p.	
10 "			75	77							b. c.	
11 "			76	77								
12 "			76	77								
Mean.			75·41	76·66	75·25	30·130						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 26.												
1 A. M.			72°	76°				S.E. by E.	7	Cum. st.	b.c.p.d	Course west.
2 "			72	76					5			
3 "			72	76	72°	30·120	76° 68°					
4 "			72	76				E. S. E.			b. c.	
5 "			74	76					7			
6 "			74	76				S. E.				
7 "			75	76								
8 "			75	76							p. d.	
9 "			76	76	76°	30·160	78° 70°				b. c.	
10 "			76	76				S. E. by S.				
11 "			76	76								
12 "	23° 43′	64° 48′	76	76						Nimbus.		
1 P. M.			76	76				S. E.				
2 "			76	76								Water deep blue.
3 "			76	76	74°	30·120	78° 70°	S. S. E.	6		b.c.p.d	
4 "			75	76					5			
5 "			76	78				S.E. by E.				
6 "			76	78					6	Cum. st.		
7 "			75	77				E. S. E.			b. c.	
8 "			76	77								
9 "			76	77	77°	30·200	76° 68°				p. d.	
10 "			76	77				East.			b. c.	
11 "			76	77								
12 "			76	77				E. S. E.			p. d.	
Mean.			75	76·41	74·75	30·150						
Mar. 27.												
1 A. M.			76°	78°				E. by S.	6	Cum. st.	b. c.	Course west.
2 "			76	78								
3 "			76	78	76°	30·180	77° 68°					
4 "			76	78								
5 "			76	76				E. S. E.				
6 "			76	76								
7 "			76	76								
8 "			76	76								
9 "			77	76	*81°	30·200	78° 70°	S. E.				*In the suu.
10 "			78	76								
11 "			78	77						Cumulus		
12 "	24° 17′	60° 50′	78	78								Considerable swell
1 P. M.			77	78				E. S. E.	7			from the S. E.
2 "			77	78						Clear.	b.	
3 "			77	78		30·160	77° 70°					
4 "			77	78					6			Water deep blue.
5 "			77	78				S. E.		Cumulus	b. c.	
6 "			76	78								
7 "			76	78								
8 "			76	78					7			
9 "			74	78	74°	30·220	76° 68°					
10 "			74	78								
11 "			74	78								
12 "			74	78								
Mean.			76·18	77·46	77	30·190						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 28.												
1 A. M.			73°	76°				S. E.	7	Cum. st.	b. c.	Course west.
2 "			73	76						Nimbus.	b. p. d.	
3 "			73	76	73°	30·200	77° 70°					
4 "			73	76				E. S. E.				
5 "			73	76								
6 "			74	76							c.	
7 "			74	76						Overcast.	o.	Sea deep blue.
8 "			74	76				S. E.				
9 "			76	76	75°	30·240	78° 70°					
10 "			76	76								
11 "			76	76								
12 "	25° 12′	56° 20′	76	76						Cir. cum.	b. c.	Passed a ship steering to the N. E.
1 P. M.			76	76								
2 "			76	76				S.E.by E.				
3 "			76	76	75°	30·220	76° 68°					
4 "			76	76								Many flying-fish seen.
5 "			74	75					6			
6 "			74	75					7	Cumulus		
7 "			75	76				S. E.				Moderate sea from the S. E.
8 "			73	76								
9 "			72	76	73°	30·260	74° 68°					
10 "			72	76								
11 "			72	76								
12 "			72	75								
Mean.			74·12	75·87	74	30·230						
Mar. 29.												
1 A. M.			73°	75°				S. E.	7	Cumulus	b. c.	Course wast.
2 "			72	75								
3 "			72	75	71°	30·240	75° 69°	E. S. E.				
4 "			72	75					6			
5 "			71	73						Clear.	b.	
6 "			70	74				E. by S.				
7 "			72	74								
8 "			74	74								
9 "			74	76	76°	30·200	78° 70°		5			
10 "			74	76				E. by N.				Water deep blue.
11 "			76	76								
12 "	26° 10′	52° 10′						East.		Cumulus	b. c.	
1 P. M.			78	76								
2 "			78	76								
3 "			76	76	75°	30·200	77° 69°	E. by S.				
4 "			76	76								A sail in sight ahead.
5 "			76	76								
6 "			75	76								
7 "			73	75				S.E.by E.				
8 "			72	74								
9 "			72	74	74°	30·220	76° 69°		6			
10 "			72	74				S. S. E.				
11 "			73	74				S. E.				
12 "			73	74								
Mean.			73·65	74·95	74	30·215						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
Mar. 30.												
1 A. M.			71°	73°				E. S. E.	5	Cumulus	b. c.	Course west.
2 "			71	73					6			
3 "			71	73	70°	30·200	74° 68°	East.				
4 "			71	72								
5 "			71	72					5			A sail in sight ahead.
6 "			72	73								
7 "			73	73				E. ½ S.				
8 "			74	73					4			
9 "			76	74	75°	30·180	76° 68°					
10 "			76	74								
11 "			76	75						Clear.	b.	
12 "	27° 02	48° 46′	78	75								Spoke American ship
1 P. M.			75	76				E. by S.				Clarendon, 28 days
2 "			75	76								from Straits of Sunda
3 "			75	76	75°	30·160	75° 67°					for New York.
4 "			75	76								
5 "			74	76								Water deep blue.
6 "			74	76				E. S. E.				
7 "			74	76								
8 "			74	76								
9 "			73	74	72°	30·100	74° 66°	E. by S.		Cumulus	b. c.	Lost sight of the ship
10 "			73	74								astern.
11 "			72	74					5			
12 "			73	74								
Mean.			73·62	74·33	73	30·160						
Mar. 31.												
1 A. M.			74°	76°				East.	5	Cumulus	b. c.	Course west.
2 "			74	76								
3 "			76	76	74°	30·080	74° 67°	E. by N.				
4 "			76	74								
5 "			74	74								Moderate dead swell
6 "			74	74				East.				from the east.
7 "			74	74						Clear.	b.	
8 "			75	76					4			
9 "			76	76	*81°	30·060	75° 66°					* In the sun.
10 "			78	76								
11 "			79	76								
12 "	27° 31′	46° 09′	80	76								Passed two sails, steer-
1 P. M.			78	76						Cir. cum.	b. c.	ing to the westward.
2 "			77	76				E. by N.				
3 "			76	76	76°	29·960	74° 65°					
4 "			76	76								
5 "			75	75				East.		Clear.	b.	Sea much smoother.
6 "			74	75					3			
7 "			74	74								
8 "			74	74								
9 "			75	75	74°	30·000	73° 68°					
10 "			73	75								
11 "			73	75								
12 "			73	75								
Mean.			75·33	75·25	76·25	30·025						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 1.												
1 A. M.			72°	74°				S. S. E.	2	Clear.	b.	Course west.
2 "			72	74								
3 "			72	74	73°	30·000		South.	1			
4 "			72	74								
5 "			73	74				S. W.	2	Cum. st.	b. c.	
6 "			74	75					3			
7 "			75	76				S. S. W.				
8 "			75	77				S.W.byS.				Steering to the westward.
9 "			76	77	76°	30·000						
10 "			76	78				S. by W.				
11 "			76	78								
12 "	28° 10′	44° 01′	76	78								
1 P. M.			74	76				S. S. W.		Nimbus.		Saw a vessel.
2 "			74	76					4			
3 "			75	76	75°	30·000		S.W.byS.	5		p. q.	
4 "			74	76					4		b. c.	
5 "			72	76					5			
6 "			72	76				S. S. W.		Cir. stra.		
7 "			74	76					4			
8 "			74	76								Considerable swell from the S. W.
9 "			74	75	74°	30·000			3			
10 "			74	75					4			
11 "			73	75								
12 "			73	75								
Mean.			73·83	75·71	74·5	30·000						
April 2.												
1 A. M.			71°	75°				S. W.	4	Cir. stra.	b. c.	Steering to the northward and westward.
2 "			72	76				S. S. W.				
3 "			72	76	71°	30·060			5			
4 "			72	75				S.W.byS.				
5 "			72	74								
6 "			72	74								
7 "			72	74				S. W. ½ S.				A long regular swell from the S. W.
8 "			72	74						Clear.	b.	
9 "			72	75	72°	30·100		S. W.				
10 "			72	75								
11 "			72	75					6			Passed a ship steering west.
12 "	28° 22′	40° 56	72	75				S. S. W.				
1 P. M.			72	74								
2 "			72	74				S. by W.				
3 "			71	74	73°	30·100				Cum. st.	b. c.	
4 "			71	74								Heavy swell from the W. S. W.
5 "			73	75					5			
6 "			72	75					6			
7 "			72	75								Course west.
8 "			72	74				South.	7			
9 "			72	74	70°	30·100			5			
10 "			72	74								
11 "			72	74					6			
12 "			72	74					7			
Mean.			71·92	74·75	71·5	30·090						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 3.												
1 A. M.			72°	76°				South.	6	Cir. stra.	b. c.	Course west.
2 "			72	75								
3 "			72	74	71°	30·160						
4 "			72	74								
5 "			70	74				S. S. E.				Heavy sea from the
6 "			70	74						Overcast.	o.	S. W.
7 "			71	75					5			
8 "			70	75								
9 "			70	75	70°	30·200						Course W. by S.
10 "			71	75				E. S. E.		Cirrus.	b. c.	
11 "			72	75								
12 "	29° 04′	37° 34′	72	75								
1 P. M.			72	75								Course W. S. W.
2 "			72	75						Clear.	b.	
3 "			72	74	71°	30·140	72° 64°	E. by S.				
4 "			70	74								Sea abating.
5 "			70	74				E. S. E.				
6 "			70	74					6			
7 "			70	73								
8 "			70	73						Cir. stra.	b. c.	
9 "			70	74	69°	30·160	72° 66°					
10 "			70	74								
11 "			70	74								Sea increasing.
12 "			70	74								
Mean.			70·83	74·37	70·25	30·165						
April 4.												
1 A. M.			71°	74°				E. by S.	6	Cir. stra.	b. c.	Course W. S. W.
2 "			71	74							p. d.	
3 "			71	74	70°	30·100	72° 65°					
4 "			72	74				E. S. E.	7			
5 "			72	74						Nimbus.	p. d. u.	
6 "			72	74								
7 "			72	74							p. d. u. t.	Heavy, irregular sea.
8 "			72	74				East.				
9 "			73	74	73°	30·000	72° 66°			Overcast.		
10 "			73	74							q. r. t.	Course W. by S.
11 "			71	74				E. N. E.	8			
12 "	31° 26′	34° 54′	68	74							q. r. t. l.	
1 P. M.			66	74				N. E. by E.				Course west.
2 "			66	73								
3 "			64	72	64°	29·820	Rain.	East.				Tern about the ship.
4 "			68	72					7		r.	
5 "			69	72								Rain ·4 in.
6 "			70	72				E. N. E.			d.	
7 "			72	72						Cir. stra.	b. c.	
8 "			72	72				N. E.				Sea going down.
9 "			72	72	72°	29·820	72° 66°		6			
10 "			72	72						Clear.	b.	
11 "			72	72								
12 "			72	72								
Mean.			70·54	73·12	69·75	29·935						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 5.												
1 A. M.			74°	74°				North.	7	Clear.	b.	Course west.
2 "			74	74								
3 "			74	74	74°	29·820				Nimbus.	c.u.t.l.	
4 "			74	74				N.N.W.	8			
5 "			75	76						Overcast.		
6 "			69	76					3		r. t. l.	Steering to the north-
7 "			69	76				West.	9		c.u.t.l.	ward and westward.
8 "			71	76					2		r.	Heavy irregular sea.
9 "			74	76	74°	29·880		S.W.	7		c.u.t.l.	
10 "			74	76								
11 "			75	76					4	Nimbus.	c.t.l.	
12 "	31° 54′	31° 32′	75	76				W.S.W.			r.t.l.	
1 P. M.			74	76					6		c.	
2 "			74	76					8	Cum. st.		
3 "			74	76	73°	29·940						
4 "			74	76				S.W.	3			Passed a Dutch
5 "			74	76						Cumulus	b. c.	harque steering to
6 "			73	76					2			the westward.
7 "			70	76						Overcast.	o.	Sea high and irregu-
8 "			70	74								lar.
9 "			70	75	69°	29·940		West.		Cum. st.	c.	Temp. of water at 100
10 "			70	75				S.W.	1		c. p. d.	fathoms, 78°.
11 "			70	76								Heavy cross sea, water
12 "			70	76				South.			c.	phosphorescent.
Mean.			72·54	75·5	72·5	29·895						
April 6.												
1 A. M.			69°	77°				S.E.	1	Cum. st.	b. c.	Steering to the west-
2 "			69	77								ward.
3 "			69	77	72°			E^{d}.				
4 "			70	77						Overcast.	o.	
5 "			69	77				Calm.	0			Petrel and albatross
6 "			69	77								about the ship.
7 "			69	77				East.	1			
8 "			71	77								
9 "			76	77	74°	30·060	76° 68°	Calm.	0			
10 "			76	77				N^{d}.	1	Nimbus	c.	Moderate sea from the
11 "			75	77					2	in		westward.
12 "	32° 40′	30° 42′	76	76				N.W^{d}.		horizon.		
1 P. M.			75	76								
2 "			75	76								
3 "			75	76	75°	30·060	75° 68°		4			Temp. of water at 100
4 "			74	76								fathoms, 78·5°.
5 "			73	76				W.N.W.	3			Saw several sparrows
6 "			72	77					4	Cumulus	b. c.	and sand birds.
7 "			72	77				West.				
8 "			72	77					5			
9 "			70	77	70°	30·180	71° 68°	S.W.				
10 "			70	77					3			
11 "			70	77								
12 "			71	77								
Mean.			71·96	76·75	72·75	30·100						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 7.												
1 A. M.			71°	77°				S. S. W.	4	Cumulus	b. c.	Course west.
2 "			70	77								
3 "			69	77	69°	30·200	69° 64°					
4 "			69	77				S. by W.	3			Heavy swell from the westward.
5 "			69	77								
6 "			69	77				S. S. W.				Albatross and petrel about.
7 "			69	77				South.	4			
8 "			69	77						Nimbus.	c. u.	Course W. by N.
9 "			71	77	70°	30·280	73° 67°	S. by E.				Water dark olive green.
10 "			71	77								
11 "			71	78				S. E.				
12 "	33° 45′	27° 47′	71	78					6		q. p.	
1 P. M.			70	78				E. by S.				
2 "			70	78					7			Coast of Africa in sight to the northward.
3 "			70	77	66°	30·200	Rain.			Cum. st.		
4 "			70	75							c.	
5 "			71	73				East.	5			Sounded in 60 fms.; sand and shells.
6 "			70	69							b. c.	
7 "			68	66				E. by S.				Water much discoloured.
8 "			68	66								
9 "			68	66	68°	30·180	70° 65°		4			
10 "			68	66					5	Cir. stra.		
11 "			68	67								
12 "			68	68								Sea smooth.
Mean.			69·5	73·96	68·25	30·215						
April 8.												
1 A. M.			68°	68°				E. by S.	4	Cir. stra.	b. c.	Course W. by N.
2 "			68	67								
3 "			66	66	65°	30·100	68° 64°			Overcast.	o.	Water very phosphoreseent.
4 "			66	66					3		F.	
5 "			65	67								
6 "			64	67					2			
7 "			64	66				East.				Africa in sight to the northward.
8 "			66	67						Clear.	b.	
9 "			69	68	70°	30·100	69° 66°					Sounded in 66 fms.; temp. water at that depth 63°.
10 "			69	68				E. N. E.				
11 "			70	68							f.	
12 "	34° 37′	24° 32′	73	69					1	Cum. st.		Course W. N. W.
1 P. M.			76	70								
2 "			74	71				N^{d}.			b. c.	Many petrel about the ship.
3 "			74	71	70°	29·980	74° 68°					
4 "			74	70								
5 "			71	70				N. W.				Land in sight.
6 "			70	70						Clear.	b.	Steering to the northward.
7 "			70	70							b. w.	
8 "			70	69				W. N. W.				
9 "			70	69	67°	29·980	69° 66°					
10 "			67	69				N. W.	3			Course W. S. W.
11 "			66	69								
12 "			65	67								
Mean.			68·96	68·42	68	30·040						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 9.												
1 A. M.			66°	68°				NWbyW	3	Clear.	b. w.	Steering to the southward and westward.
2 "			66	68				W. N. W.				
3 "			66	68	64°	29·900	69° 67°	West.	4	Nimbus.	c. u.	
4 "			66	68								Sea rising from the westward.
5 "			66	68					7			
6 "			66	68				W. N. W.				Steering to the northward.
7 "			66	68				NWbyW				
8 "			66	68					8			
9 "			65	68	64°	30·040	70° 67°					Land in sight to the northward.
10 "			66	67				W. S. W.				
11 "			66	67				West.	7			Heavy sea from the westward.
12 "	34° 26′	23° 49′	67	67								
1 P. M.			66	67				NWbyW			p. d.	
2 "			65	67					6			Petrels about the ship.
3 "			64	66	65°	30·100	70° 66°	W. N. W.				
4 "			65	66							c.	Steering to the S. W.
5 "			65	66				West.	4			No land in sight.
6 "			64	66				NWbyW		Cum. st.	b. c.	
7 "			64	66								
8 "			64	66				W. by N.				
9 "			64	67	63°	30·200	66° 60°	W. N. W.				Sea going down; water phosphorescent.
10 "			63	67					3			
11 "			63	67						Clear.	b. w.	
12 "			63	67								
Mean.			65·08	67·12	64	30·060						
April 10.												
1 A. M.			62°	66°				NWbyW	3	Clear.	b. w.	Steering to the northward.
2 "			62	66								
3 "			62	66	64°	30·260	64° 60°		4			
4 "			63	67				W. N. W.		Cumulus	b. c.	
5 "			62	67								Water dark olive green.
6 "			62	67								
7 "			63	67				N. W.				Three vessels in sight.
8 "			63	67								
9 "			63	67	63°	30·280	65° 60°		5			Steering to the southwestward.
10 "			64	66				NWbyW				
11 "			66	66								A long dead swell from the southward.
12 "	34° 37′	23° 40′	65	67								Sounded in 80 fathoms, bottom coarse sand.
1 P. M.			66	67				N. N. W.				
2 "			66	67				W. by N.	4			
3 "			66	67	66°	30·280	66° 60°					
4 "			66	68						Overcast.	o.	Saw large numbers of Saphirinæ.
5 "			66	68								
6 "			66	67				W. N. W.	3			Steering to the northward.
7 "			68	75								
8 "			67	75								Heavy sea from the westward.
9 "			66	69	65°	30·300	64° 60°					
10 "			65	72					2			Water very phosphorescent.
11 "			66	74				NWbyW				
12 "			65	75								Steering to the southwestward.
Mean.			64·58	68·45	64·5	30·280						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 11.												
1 A. M.			67°	75°				W. N. W.	2	Overcast.	o.	Steering to the southward and westward.
2 "			66	75				W^d.	1			
3 "			66	75	66°	30·300	65° 59°					Heavy swell from the westward.
4 "			65	75						Clear.	b.	
5 "			65	75				Calm.	0			
6 "			65	76								
7 "			66	76								
8 "			67	76								No bottom with 200 fathoms line.
9 "			68	76	67°	30·300	70° 66°	N^d.	1			
10 "			71	76				Calm.	0			
11 "			72	76								Saw some Diomedia, Exalas and Procellaria.
12 "	36° 02′	22° 47′	72	76								
1 P. M.			69	76								
2 "			70	76				East.	1			Course N. W. by N.
3 "			70	70	70°	30·200	70° 65°		2			Passing from the warm to the cold current; sea went down; water dark olive green.
4 "			69	70				N.E.byE.				
5 "			69	70								
6 "			69	69					5			
7 "			69	68								
8 "			68	69				E.N.E.			b. w.	Albatross and petrel seen.
9 "			68	69	67°	30·200	68° 64°					
10 "			68	69				East.				Water very phosphorescent.
11 "			67	69								
12 "			67	68								
Mean.			68·04	72·92	67·5	30·250						
April 12.												
1 A. M.			67°	67°				East.	4	Clear.	b. w.	Course N. W. by N.
2 "			67	68								
3 "			67	68	66°	30·200	67° 64°	E. S. E.	5			
4 "			67	67								
5 "			67	68								
6 "			67	68				S. E.				
7 "			67	68					3			
8 "			68	67				E. S. E.		Hazy.	b. m.	
9 "			69	68	68°	30·120	70° 67°					
10 "			70	67				S. S. E.				
11 "			69	68								No bottom with 90 fathoms.
12 "	35° 12′	19° 40′	69	68				S. by W.	4			
1 P. M.			70	68								Water olive green.
2 "			70	68				S.E. by S.			f.	Course N. N. W.
3 "			70	68	68°	30·040	71° 67°					
4 "			69	68				E. S. E.			F.	
5 "			69	67					5			
6 "			66	69					4		f.	
7 "			68	67				S. E.		Overcast.	o.	
8 "			66	67								Course N. W. ½ W.
9 "			68	67	64°	30·040	68° 60°	S.E. by S.				
10 "			68	67							o. m.	
11 "			68	67								
12 "			67	68								
Mean.			68·04	67·58	66·5	30·100						

U. S. SHIP VINCENNES.

FROM SINGAPORE TO CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 13.												
1 A. M.			67°	66°				S. E. ½ S.	4	Overcast.	o. m.	Course N. W. ½ N.
2 "			67	65								No bottom with 110
3 "			67	65	65°	30·040	68° 64°					fathoms.
4 "			67	65							f.	
5 "			67	65				South.				
6 "			67	65					6			High land about the
7 "			67	65								Cape of Good Hope
8 "			66	65					4			in sight to the north-
9 "			64	54	66°	30·040	60° 56°		2			ward. Steering to
10 "			62	54				N. N. E.	1		F.	the northward.
11 "			63	54								Steering to the west-
12 "			63	54				N^{d}.	2			ward.
1 P. M.			59	58				N. N. W.				Water light olive
2 "			59	58				N. by E.	1			green.
3 "			60	62	57°	30·020	59° 57°				f.	Albatross about.
4 "			62	63								Sounded in 53 fa-
5 "			65	64				S. E.		Clear		thoms; coral bottom.
6 "			65	62				E. S. E.		over-		Table Mountain bore
7 "			67	66					2	head, fog		N. 73° E.
8 "			67	66				E. N. E.	3	about the	F.	Three vessels in sight.
9 "			58	58		30·020	57° 55°		2	horizon.		
10 "			58	58				N. N. E.		Overcast.		
11 "			58	58								
12 "			58	58				N. E.	1			
Mean.			63·46	61·16	62·66	30·030						
April 14.												
1 A. M.			60°	57°				E. N. E.	1	Overcast.	F.	Steering to the west-
2 "			59	58					2			ward.
3 "			58	57·5	56°	30·000		S. E.				Sounded in 75 fa-
4 "			58	57·5				South.				thoms; hard bottom.
5 "			58	57				S. E.	1			Steering to the north-
6 "			58	57				East.				eastward.
7 "			58	54				N. N. E.	2			
8 "			58	59					3			
9 "			58	59	57°	30·020		N. E.	1			
10 "			59	58								Sounded in 18 fa-
11 "			59	56								thoms water.
12 "			61	56				E. N. E.			f.	Saw several fishing
1 P. M.			61	56								boats at anchor.
2 "			66	56								Anchored in Table
3 "			60	57	59°	30·000	59° 55°			Clear	F.	Bay, in 6¾ fathoms
4 "			59	57						over-		water.
5 "			60	57						head.		
6 "			60	57						Overcast.		
7 "			58	57				Calm.	0			
8 "			58	57								
9 "			58	57	56°	30·040	56° 50°					
10 "			58	58				N. W.	2	Stratus.	c.	
11 "			57	59								
12 "			57	59								
Mean.			59	57·21	57	30·015						

Table Bay, Cape of Good Hope.

U. S. SHIP VINCENNES.

CAPE OF GOOD HOPE.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 15.												
1 A. M.			59°	57°				N^{d}.	4	Overcast.	o. m.	
2 "			60	58								
3 "			59	58	58°	30·060			2			
4 "			59	58				Var.	1			
5 "			58	58						Foggy.	F.	
6 "			59	58								
7 "			59	58				Calm.	0			
8 "			60	58								
9 "			60	58	59°	30·120		Var.	1			
10 "			61	58				S. S. E.	5	Clear.	b.	
11 "			70	63								
12 "			70	61								During the whole day the summit of Table Mountain covered with a dense fog.
1 P. M.			72	60								
2 "			70	58								
3 "			69	58	68°	30·100	58° 54°		6			
4 "			69	58								
5 "			68	58								
6 "			67	58					5			
7 "			67	58								
8 "			67	58								
9 "			65	58	64°	30·180	57° 54°		7		b. q.	
10 "			65	58				South.	5			
11 "			65	58								
12 "			65	58					6		b.	
Mean.			64·29	58·37	62·25	30·115						
April 16.												
1 A. M.			66°	58°				South.	6	Clear.	b.	
2 "			66	58								
3 "			66	58	66°	30·160	65° 60°					
4 "			66	58								
5 "			67	58				S. by E.	7			
6 "			67	58				N^{d}.	1			
7 "			68	58								
8 "			63	55					2			
9 "			64	55	63°	30·160	65° 63°					Temperature of the air and water both changing suddenly during the day. The summit of Table Mountain covered as yesterday.
10 "			65	56								
11 "			67	56					1			
12 "			68	56				Calm.	0			
1 P. M.			76	57								
2 "			75	57				S. E.	4			
3 "			80	60	79°	30·160	63° 59°					
4 "			81	66								
5 "			75	66								
6 "			75	66					5			
7 "			70	65								
8 "			70	65					3			
9 "			72	57	70°	30·180	61° 58°					
10 "			68	56								
11 "			67	56					1			
12 "			64	56								
Mean.			69·42	58·79	69·5	30·165						

Table Bay, Cape of Good Hope.

U. S. SHIP VINCENNES.

FROM CAPE OF GOOD HOPE TO ST. HELENA.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 17.												
1 A. M.			64°	57°				S^{d}.	2	Clear.	b. w.	
2 "			66	58				Var.	1			
3 "			70	59	68°	30·120	66° 60°					Temperature of air suddenly changing without appareut cause.
4 "			66	59								
5 "			63	58							b.	
6 "			62	58				S. E.	3			
7 "			65	58								
8 "			65	59				Var.	2			
9 "			66	62	65°	30·120	66° 62°					Got under way.
10 "			66	64								Wind blowing in opposite directions, S. E. aloft and N. W. below.
11 "			70	65								
12 "			75	65								
1 P. M.			66	65								
2 "			64	60								Course N. W. by N.
3 "			63	60	77°	30·120	65° 60°					
4 "			63	59								
5 "			63	59								The same phenomenon of the wind continuing, producing a *mirage* and great changes in the temperature of the air.
6 "			62	59								
7 "			63	59				S. W.	3			
8 "			64	60				S. S. W.			b. w.	
9 "			63	64	62°	30·100	62° 60°	S. S. E.				
10 "			63	66								
11 "			64	66				S. by E.				Lost sight of the land.
12 "			65	66								
Mean.			65·04	61·04	68	30·115						
April 18.												
1 A. M.			65°	66°				S. by E.	3	Clear.	b. w.	Course N. W. by N.
2 "			65	66								
3 "			66	66 5	66°	30·040	63° 60°	S. S. W.				
4 "			66	66·5								
5 "			66	65								
6 "			66	65				S. E. by S.			b.	
7 "			66	67					4			
8 "			66	67				S. S. E.				Water olive green.
9 "			70	67	*75°	30·040	70° 62°	S. E.				*In the sun.
10 "			70	67								
11 "			70	67				East.				
12 "	32° 54′	16° 17′	70	67								
1 P. M.			70	67				E. N. E.	3			
2 "			70	67								
3 "			70	67	70°	29·960	70° 56°	E. S. E.				
4 "			69	67				S. E. by E.				
5 "			68	67								
6 "			68	67·5				S. E. by S.			b. l.	
7 "			67	67				S. S. E.				
8 "			67	66				S. E.				
9 "			67	66	66°	29·980	67° 62°		2	Nimbus to the S. E.	b. c. t. l.	
10 "			66	68								
11 "			66	68								
12 "			67	65					1			
Mean.			67·54	66·64	69·25	30·005						

U. S. SHIP VINCENNES.

FROM CAPE OF GOOD HOPE TO ST. HELENA.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 19.												
1 A. M.			66°	68°				Calm.	0	Stratus.	c. l.	
2 "			67	68								
3 "			68	69	67°	29·960	68° 63°	Var.	1			Steering to the westward.
4 "			68	69								
5 "			67	68				N. N. W.	2			
6 "			67	68						Cir. stra.		
7 "			67	68							b. c.	Saw an American barque.
8 "			68	68								
9 "			71	68	68°	29·900	70° 64°		1			
10 "			71	68						Clear.	b.	Passed some Saphirinæ and sperm whales.
11 "			72	68				Calm.	0			
12 "	32° 28′	15° 25′	72	68				N^{d}.	1			
1 P. M.			70·5	70				N. N. E.				
2 "			71	69·5				North.	2			
3 "			70	70	70°	29·900	72° 60°	N. by W.				
4 "			71	70				N. N. W.				Sea blue.
5 "			69	68					3			
6 "			68	68								
7 "			66	67				West.	4	Cum. st.	b. c.	Steering to the northward and westward.
8 "			65	67								
9 "			64	68	64°	29·980	67° 62°					
10 "			63	68				W. ½ S.				
11 "			63	67								
12 "			64	67					5			
Mean.			67·85	68·23	67·25	29·935						
April 20.												
1 A. M.			64°	67°				W. by N.	5	Cir. stra.	b. c.	Steering to the northward and westward.
2 "			64	67				West.	4			
3 "			64	66	63°	30·000	68° 63°	W. by S.				
4 "			65	66					3	Clear.	b.	
5 "			65	66								
6 "			66	67				SW.byW				
7 "			66	67								
8 "			66	67					4			
9 "			66	67	65°	30·000	70° 60°			Stratus.	b. c.	
10 "			66	66·5								
11 "			66	66·5				W. S. W.	3			Course N. W. ½ N.
12 "	31° 22′	13° 45′	67	67								Sea smooth, water blue.
1 P. M.			66	67				S. W.				
2 "			66	67								
3 "			65	67	65°	30·040	64° 58°					
4 "			65	67				W. S. W.		Cum. st.		
5 "			65	67								
6 "			65	67				SW.byW				
7 "			65	67								
8 "			65	67				S. W.	2			
9 "			64	67	64°	30·060	64° 58°		1	Overcast.	o.	Temp. water at 100 fathoms, 60·5°.
10 "			64	67								
11 "			64	67								
12 "			64	67								
Mean.			65·12	66·83	64·25	30·025						

U. S. SHIP VINCENNES.

FROM CAPE OF GOOD HOPE TO ST. HELENA.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 21.												
1 A. M.			64°	67°				W. S. W.	1	Overcast.	o.	Course N. W. ½ N.
2 "			64	67				S. W.				
3 "			64	67	63°	30·060	63° 58°					
4 "			64	67								
5 "			65	67								
6 "			65	67				Calm.	0			
7 "			66	67						Clear.	b.	
8 "			66	67				S. E.	1			
9 "			68	68	73°	30·080	70° 62°	SWbyW.				
10 "			68	68								Saw a vessel.
11 "			68	69								
12 "	30° 50′	12° 36′	67	70				W. by S.				Sea smooth, water deep blue.
1 P. M.			66	70				SWbyW.				
2 "			66	70								
3 "			66	70	66°	30·080	66° 60°					
4 "			67	70				W. by S.				
5 "			67	69					2			Steering to the northward.
6 "			67	69				West.				
7 "			65	68								
8 "			65	68					3			
9 "			64	68	64°	30·060	64° 58°	W. ½ S.			b. w.	
10 "			64	68								Several birds about the ship.
11 "			64	68				West.				
12 "			64	68								
Mean.			65·58	68·21	66·5	30·070						
April 22.												
1 A. M.			64°	68°				West.	3	Clear.	b. w.	Steering to the northward.
2 "			64	68				W. by N.				
3 "			64	67	64°	30·060	64° 58°					
4 "			66	67								
5 "			66	67				W. N. W.		Stratus.	b. c.	
6 "			67	68								
7 "			67	68					2			Passed an English ship.
8 "			69	68				W. by S.				
9 "			65	68	65°	30·080	70° 64°					
10 "			66	68						Clear.	b.	
11 "			66	68				W. ½ S.				
12 "	29° 54′	11° 34′	68	68						Cum. st.	b. c.	Water deep blue.
1 P. M.			67	68				W. by S.				
2 "			65	68					4			
3 "			64	68	66°	30·060	64° 58°	W. S. W.				Course N. W. by N.
4 "			63	68								
5 "			67	69								
6 "			67	69						Overcast.	o.	
7 "			68	68								
8 "			65	68								
9 "			65	68	65°	30·100	64° 58°					
10 "			65	68				S. W.				
11 "			65	68						Cir. stra.	b. c.	
12 "			65	68					5			
Mean.			65·75	67·96	65	30·075						

U. S. SHIP VINCENNES.

FROM CAPE OF GOOD HOPE TO ST. HELENA.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 23.												
1 A. M.			65°	68°				SWbyW.	5	Cum. st.	b. c.	Course N. W. by N.
2 "			65	68								
3 "			64	68	64°	30·100	64° 60°					
4 "			64	68								
5 "			64	68				SW. by S.				
6 "			65	68								
7 "			66	68								
8 "			66	69				S. S. W.				
9 "			68	68	64°	30·200	64° 56°					
10 "			67	68								
11 "			65	68								
12 "	28° 25′	8° 51′	64	68						Clear.	b.	A long swell from the westward.
1 P. M.			68	69				South.				
2 "			67	69								
3 "			65	69	65°	30·180	64° 54°	S. by E.				
4 "			65	69					4			
5 "			65	69								
6 "			66	69				S.E. by S.		Cumulus	b. c.	
7 "			66	69								Course N. N. W.
8 "			65	69				S. S. E.				
9 "			64	69	64°	30·200	61° 57°					
10 "			64	68								
11 "			65	68								
12 "			65	69								
Mean.			65·33	68·46	64·25	30·170						
April 24.												
1 A. M.			64°	69°				S. S. E.	4	Cumulus	b. c.	Course N. N. W.
2 "			64	69								
3 "			64	69	64°	30·200	63° 59°					
4 "			63	69								
5 "			61	69								
6 "			61	69				S. E.				
7 "			62	69					3			
8 "			64	69						Overcast.	o.	
9 "			65	69	67°	30·200	64° 60°					
10 "			70	70					4			
11 "			68	70								
12 "	26° 48′	6° 26′	67	70								
1 P. M.			69	70				S.E. by E.				Sea smooth, water deep indigo blue.
2 "			67	70								
3 "			66	70	68°	30·160	66° 58°	E. S. E.	3			
4 "			67	69								
5 "			67	69								
6 "			66	69				S.E. by S.	4			
7 "			67	69								
8 "			66	69				E. S. E.				
9 "			66	69	65°	30·160	64° 59°		3			
10 "			66	69				E. by S.				
11 "			67	69								
12 "			67	69								
Mean.			65·58	69·25	66	30·180						

U. S. SHIP VINCENNES.

FROM CAPE OF GOOD HOPE TO ST. HELENA.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 25.												
1 A. M.			65°	69°				East.	3	Overcast.	o.	Course N. N. W.
2 "			64	69								
3 "			64	69	65°	30·160	64° 60°	E. by S.	2			
4 "			64	69					1			
5 "			66	69								
6 "			67	69				S. S. E.				
7 "			67	69				E. by N.		Cum. st.	b. c.	
8 "			66	69								
9 "			68	69	67°	30·160	65° 60°	N. E.	2			
10 "			68	69					3	Stratus.	c.	
11 "			68	69								Steering to the northward and westward.
12 "	25° 36′	4° 59′	70	69						Cir. stra.		
1 P. M.			72	70								
2 "			73	70				N.E.by N	2	Cum. st.		
3 "			73	70	75°	30·120	68° 60°		1			
4 "			70	70				NWbyW				Steering to the northward.
5 "			70	70								
6 "			69	70				N. W.				
7 "			68	70				NW.byN				
8 "			68	70						Clear.	b.	
9 "			66	70	65°	30·160	65° 60°	N. N. W.	2			
10 "			66	70					1			
11 "			65	70				W. by N.				
12 "			65	70								
Mean.			67·58	69·5	68	30·150						
April 26.												
1 A. M.			66°	69°				West.	2	Clear.	b.	Course N. N. W.
2 "			66	69								
3 "			66	68	64°	30·160	66° 62°					
4 "			66	68				South.				
5 "			66	69								
6 "			67	70				S. S. W.				
7 "			67	70					3			
8 "			69	70								
9 "			70	70	72·5°	30·200	70° 62°	S. by E.				
10 "			72	71								
11 "			70	71								
12 "	24° 45′	4° 05′	72	71					2			
1 P. M.			67	70				S. S. E.				Water deep blue.
2 "			69	70						Cumulus	b. c.	
3 "			69	70	68°	30·160	70° 62°		3			
4 "			69	70				S. by E.				
5 "			68	70					4			
6 "			68	70								
7 "			67	70						Clear.	b.	
8 "			67	70				South.	3			
9 "			68	71	67°	30·200	68° 62°					
10 "			68	71								
11 "			68	71				S.E. by S.				
12 "			68	71								
Mean.			68·04	70	67·87	30·180						

U. S. SHIP VINCENNES.

FROM CAPE OF GOOD HOPE TO ST. HELENA.

1842.	Lat. South.	Long. East.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Diree.	Force.	Clouds.	Weather.	Remarks.
April 27.												
1 A. M.			68°	71°				S. S. E.	3	Clear.	b.	Course N. N. W.
2 "			67	71								
3 "			67	70	67°	30·200	68° 64°					
4 "			67	70						Cum. st.	c.	
5 "			67	70								
6 "			67	70					2			
7 "			68	70				S.E. by S.				
8 "			70	70								
9 "			70	70	70°	30·200	70° 62°		3			
10 "			70	71					2			
11 "			70	71								
12 "	23° 36′	2° 39′	70	71				S. S. E.		Clear.	b.	
1 P. M.			70	71				South.				
2 "			69	71								
3 "			69	71	68°	30·100	70° 62°	W. S. W.				
4 "			69	71								
5 "			69	72				W. by S.		Overcast.	o.	
6 "			69	72					3			
7 "			69	72				S.W. by S.				
8 "			69	72								
9 "			69	71	68°	30·160	68° 62°					
10 "			69	71						Cirrus.	b. c.	
11 "			69	71								
12 "			69	71						Cir. stra.		
Mean.			69·75	70·87	68·25	30·165						
April 28.												
1 A. M.			69°	70°				S. S. W.	3	Overcast.	o.	Course N. N. W.
2 "			68	70				SW by W.				
3 "			68	70	68°	30·180	68° 60°	S. W.				
4 "			68	70					4		p. d.	
5 "			68	70				S. S. W.				
6 "			69	71							o.	
7 "			69	71					3			
8 "			70	72						Clear.	b.	
9 "			71	72	72°	30·180	70° 60°					
10 "			71	72								
11 "			71	72								
12 "	22° 24	1° 18′	70	72						Cir. stra.	b. c.	
1 P. M.			69	72								A long swell from the westward.
2 "			70	72				S. W.	4			
3 "			70	72	69°	30·120	70° 64°			Cum. st.		
4 "			70	72								
5 "			70	72								
6 "			70	72				S. S. W.			p. d.	
7 "			70	72							c.	
8 "			70	72								
9 "			70	72	68°	30·160	70° 64°			Clear.	b.	
10 "			69	72								
11 "			69	72								
12 "			69	72								
Mean.			69·5	71·5	69·25	30·160						

U. S. SHIP VINCENNES.

FROM CAPE OF GOOD HOPE TO ST. HELENA.

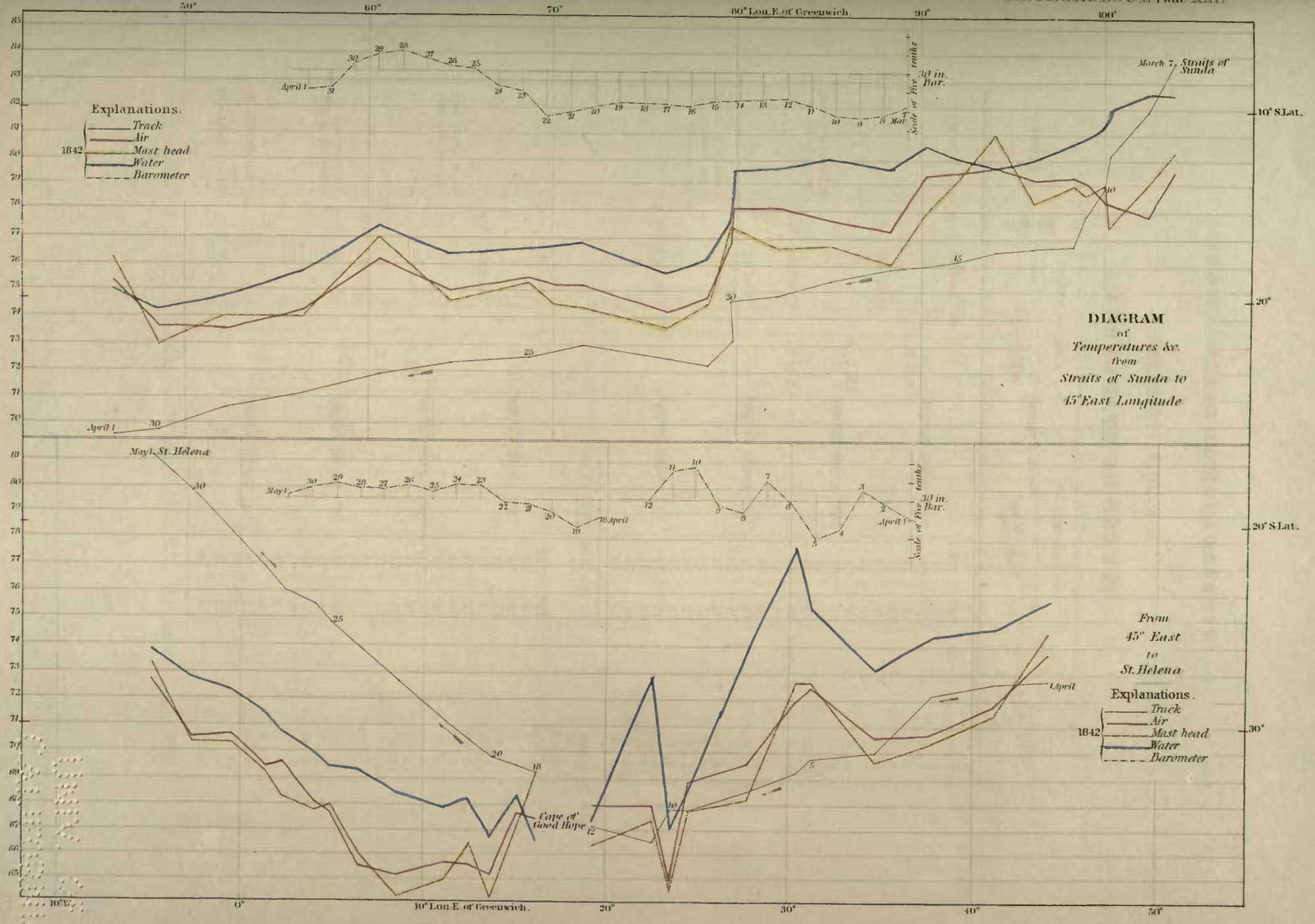
1842.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
April 29.												
1 A. M.			70°	72°				S. W.	4	Clear.	b.	Course N. N. W.
2 "			70	72					5			
3 "			70	72	68°	30·160	70° 62°	S. S. W.				
4 "			70	72								
5 "			70	72				South.				
6 "			70	72								
7 "			70	72					4			
8 "			71	72				S. S. E.				
9 "			72	72	73°	30·200	74° 68°					
10 "			72	72								Took the S. E. trades.
11 "			72	73				S.E.by E.				
12 "	20° 33′	0° 49′	72	73								
1 P. M.			71	72								Water deep blue.
2 "			71	72						Nimbus.	c.	
3 "			71	72	70°	30·200	70° 58°	S. E. by S.				Course N. by W. ½ W.
4 "			71	73					3			
5 "			71	73				S. S. E.				
6 "			70	73					4		c. p. d.	
7 "			70	72								
8 "			70	72				S. E.				
9 "			70	72	70°	30·200	72° 69°	South.				
10 "			70	72						Cum. st.	c.	
11 "			70	72				S. S. E.	5	Clear.	b.	
12 "			70	72						Cum. st.	b. c.	
Mean.			70·58	72·21	70·25	30·190						
April 30.												
1 A. M.			70°	72°				S. S. E.	5	Cumulus	b. c.	Course N. by W. ½ W.
2 "			70	72						and		
3 "			70	72	69°	30·200	71° 69°			Nimbus.		
4 "			70	72								
5 "			68	72				S. by E.			c.	
6 "			70	72				S. E. by S.	6			
7 "			71	72				S. E.				
8 "			70	73							d.	
9 "			69	73	69°	30·200	Rain.					
10 "			70	73					5			
11 "			68	73				E. S. E.			c.	Water deep blue.
12 "	18° 20′	2° 40′	67	73								
1 P. M.			70	73				S. E.		Cumulus	b. c.	
2 "			72	73				S. S. E.				Course N. N. W.
3 "			71	73	71°	30·100	74° 66°					
4 "			71	73								
5 "			72	73								
6 "			72	73				S. E. by S.				
7 "			72	74								
8 "			72	74					6			
9 "			72	74	70°	30·200	71° 69°					
10 "			72	74					5			
11 "			72	74								
12 "			71	73					6			
Mean.			70·5	72·91	69·75	30·175						

U. S. SHIP VINCENNES.

ISLAND OF ST. HELENA.

1842.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 1.												
1 A. M.			72°	73°				S. E.	6	Cumulus	b. c.	Course N. N. W. ½ W.
2 "			71	73								
3 "			72	73	71°	30·200	71° 67°		5			
4 "			72	73				S. S. E.				
5 "			72	74								
6 "			72	74						Overcast.	o.	
7 "			72	74								
8 "			73	74				S.E. by S.				
9 "			75	74	75°	30·200	72° 68°					
10 "			76	75								St. Helena in sight to the northward.
11 "			76	75				S. E.				
12 "	16° 18′	5° 17′	72	74				S. by E.		Cumulus	b. c.	
1 P. M.			72	74								
2 "			72	74								
3 "			73	74	74°	30·080	74° 66°		6	Nimbus over the island.		
4 "			73	74								
5 "			73	74				S. E.	5			Anchored in Jamestown Roads, in 22 fathoms water.
6 "			73	74								
7 "			72	74								
8 "			73	74					6			
9 "			74	74		30·080	73° 70°		7	Cumulus	b. c. q.	
10 "			73	74					6			
11 "			73	74								
12 "			73	74								
Mean.			72·87	73·92	73·33	30·140						
May 2.												
1 A. M.			73°	74°					7	Cumulus	b. c. q.	
2 "			73	74								
3 "			73	74	72°	30·100	74° 70°	S. E.	5			
4 "			73	74					6			
5 "			73	74						Nimbus.	b. c.	
6 "			73	74								
7 "			73	74								Heavy clouds hanging over the island.
8 "			73	74					7			
9 "			73	74	73°	30·160	73° 69°					
10 "			74	74				S. S. E.				
11 "			74	74								
12 "			74	74				S. E.	5			
1 P. M.			79	75						Clear.	b.	
2 "			78	75				S. S. E.				
3 "			78	75	78°	30·080	74° 65°			Cum. st.	b. c.	Got under way.
4 "			78	75								Course N. N. W. ½ W.
5 "			76	75					4			
6 "			74	74								
7 "			73	75					5			
8 "			72	75								
9 "			72	74		30·100	72° 67°					Lost sight of St. Helena.
10 "			72	74								
11 "			72	74								Water phosphorescent.
12 "			72	74								
Mean.			73·96	74·29	74·33	30·110						

Jamestown Roads, St. Helena.


50°
60°
70°
80° Lon. E. of Greenwich.
90°
100°
Explanations.
1842
Track
Air
Mast head
Water
Barometer
April 1
March 7. Straits of Sunda
10° S Lat.
30°
DIAGRAM
of
Temperatures &c.
from
Straits of Sunda to
45° East Longitude
May 1. St. Helena
20° S Lat.
From
45° East
to
St. Helena
Explanations.
1842
Track
Air
Mast head
Water
Barometer
Cape of Good Hope
10° W.
0°
10° Lon. E. of Greenwich.
20°
30°
40°
50°

UNIV. OF
CALIFORNIA

U. S. SHIP VINCENNES.

FROM ST. HELENA TO NEW YORK.

1842.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 3.												
1 A. M.			72°	74°				S. S. E.	4	Cumulus	b. c.	Course N. N. W. ½ W.
2 "			72	74								
3 "			72	74	71°	30·100	72° 66°					
4 "			72	74				S. E.				
5 "			72	74								
6 "			72	74				E. S. E.				
7 "			72	74								
8 "			73	75				S. E.		Clear.	b.	
9 "			75	75	71°	30·100	74° 66°	East.				
10 "			75	75					3			
11 "			76	76				S. E.				Water deep blue.
12 "	14° 42′	7° 15′	76	76						Cum. st.	b. c.	
1 P. M.			76	76				S. S. E.				
2 "			74	76								
3 "			74	76	74°	30·060	76° 60°					Course N. W. by N.
4 "			74	76				S. E.	4			
5 "			74	76								Passed a vessel.
6 "			74	76							c.	
7 "			74	76								
8 "			73	76				S. E. by S.				
9 "			73	76	73°	30·100	73° 69°			Nimbus.		
10 "			73	76							p. d.	
11 "			72	76								
12 "			72	76					3			
Mean.			73·42	75·29	72·25	30·090						
May 4.												
1 A. M.			73°	76°				S. E. by S.	3	Overcast.	p. d.	Course N. W. by N.
2 "			73	76							o.	
3 "			73	76	70°	30·120	74° 70°					
4 "			73	76				S. E. by E.				
5 "			73	76					4			
6 "			73	76						Cum. st.	b. c.	
7 "			73	76								
8 "			74	76								
9 "			76	77	76°	30·120	76° 70°	S. E.				
10 "			77	77								
11 "			77	77								
12 "	13° 22′	9° 07′	77	77								Sea smooth, water deep blue.
1 P. M.			77	77								
2 "			76	77				E. S. E.				
3 "			76	77	76°	30·040	76° 70°		5			
4 "			76	77						Overcast.	o.	
5 "			76	77					4			
6 "			75	77						Cir. stra.	b. c.	
7 "			75	77				S. E.				
8 "			75	77								
9 "			75	77	74°	30·120	74° 70°					
10 "			75	77					5	Clear.	b.	
11 "			75	77								
12 "			74	77								
Mean.			74·87	76·66	74	30·100						

U. S. SHIP VINCENNES.

FROM ST. HELENA TO NEW YORK.

1842.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 5.												
1 A. M.			74°	77°				S. E.	4	Clear.	b. c.	Course N. W. by N.
2 "			74	77								
3 "			74	77	73°	30·140	75° 71°	E. S. E.				
4 "			74	77							b.	
5 "			74	78								
6 "			74	78				S. E.				
7 "			75	78								
8 "			77	78				S.E.by E.	3			
9 "			78	78	*83°	30·120	77° 72°					* In the sun.
10 "			78	78							b.	Saw a vessel.
11 "			79	78				S. E. by S.				
12 "	12° 01′	11° 03′	79	78					2			
1 P. M.			77	79				S. S. E.				
2 "			77	79								
3 "			76	79	74°	30·040	76° 68°					
4 "			75	79				S E. by E.				Sea very smooth.
5 "			75	79					3			
6 "			75	78								
7 "			75	78								
8 "			75	78								
9 "			74	78	70°	30·100	75° 70°					
10 "			74	78					4		b.	
11 "			74	78								
12 "			74	78								
Mean.			75·46	78·04	75	30·100						
May 6.												
1 A. M.			74°	78°				S. E.	3	Clear.	b.	Course N. W. by N.
2 "			74	78								
3 "			74	78	75°	30·120	75° 69°					
4 "			74	78								
5 "			74	78				S. E. by S.	4			
6 "			75	78								
7 "			77	79								
8 "			79	79								
9 "			80	79	81°	30·120	78° 70°					A vessel in sight to the S. E.
10 "			81	79								
11 "			81	79				S. S. E.	3			
12 "	10° 56′	12° 35′	81	79						Cumulus	b. c.	
1 P. M.			78	79								
2 "			78	79								Sea smooth; water deep blue.
3 "			77	79	77°	30·040	77° 72°					
4 "			77	79				S. E. by S.				
5 "			78	79								
6 "			78	79								
7 "			76	78								
8 "			76	78								
9 "			76	78	75°	30·040	76° 70°					
10 "			76	78								
11 "			76	78								
12 "			76	78								
Mean.			76·92	78·5	77	30·080						

U. S. SHIP VINCENNES.

FROM ST. HELENA TO NEW YORK.

1842.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 7.												
1 A. M.			75°	79°				S.E. by S.	3	Cumulus	b. c.	Course N. W. by N.
2 "			74	79								
3 "			74	79	75°	30·100	76° 72°					
4 "			74	79								
5 "			74	79								
6 "			75	79						Clear.	b.	Flying-fish seen in great numbers.
7 "			77	79					4			
8 "			78	80								
9 "			79	80	81°	30·120	77° 72°					
10 "			78	80								Gannets, tern, and other birds about the ship.
11 "			80	80								
12 "	9° 47′	14° 03′	80	80								
1 P. M.			78	80								
2 "			77	80								
3 "			77	80	77°	30·060	77° 70°					
4 "			77	80					3			
5 "			77	80				S. E.				
6 "			77	80				S.E. by E.				
7 "			77	80					4			Zodiacal light very distinct.
8 "			76	80								
9 "			76	80	77°	30·040	78° 72°			Cumulus	b. c.	
10 "			76	80								
11 "			76	80								
12 "			75	80								
Mean.			76·54	79·71	77·5	30·080						
May 8.												
1 A. M.			76°	80°				S.E. by E.	4	Cum. st.	b. c.	Course N. W. by W.
2 "			76	80								
3 "			76	80	77°	30·100	78° 73°					
4 "			76	80								
5 "			76	80						Cumulus		
6 "			77	80					3			
7 "			79	81								
8 "			79	81				S. E.				
9 "			80	81	80°	30·100	81° 73°					
10 "			80	81						Clear.	b.	
11 "			81	81				S.E. by E.	2			
12 "	9° 19′	16° 01′	81	81								
1 P. M.			80	82								Tern about the ship.
2 "			79	81								
3 "			79	81	78°	30·040	78° 70°	E. S. E.	3			
4 "			78	81								
5 "			78	81								
6 "			77	81				S.E. by E.		Cumulus	b. c.	Temp. water at 100 fathoms, 65°.
7 "			76	81								
8 "			76	81								
9 "			76	81	77°	30·100	77° 70°					
10 "			76	81								
11 "			76	81								
12 "			76	81								
Mean.			77·66	80·79	78	30·085						

U. S. SHIP VINCENNES.

FROM ST. HELENA TO NEW YORK.

1842.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 9.												
1 A. M.			76°	81°				S.E.by E.	3	Cumulus	b. c.	Course N. W. by W.
2 "			76	81								
3 "			76	81	77°	30·120	78° 70°					
4 "			76	81								
5 "			76	80						Clear.	b.	
6 "			78	80								
7 "			78	80								
8 "			78	80								
9 "			80	82	*89°	30·120	80° 70°					* In the sun.
10 "			80	82				S. S. E.	2			
11 "			80	82						Cumulus	b. c.	
12 "	8° 54′	17° 14′	82	82								
1 P. M.			80	82								
2 "			81	82								
3 "			79	82	78°	30·120	79° 70°	S.E. by S.				
4 "			79	82								
5 "			78	82						Clear.	b.	
6 "			78	82				South.				
7 "			77	82								Zodiacal light and the Magellan clouds very distinct.
8 "			77	82				S. S. E.				
9 "			78	82	78°	30·120	78° 74°				b. w.	
10 "			78	81								
11 "			78	81					3			
12 "			78	81								
Mean.			78·21	81·37	80·5	30·120						
May 10.												
1 A. M.			78°	80°				S. S. E.	4	Clear.	b. w.	Course N. W. by W.
2 "			78	80				South.				
3 "			78	80	77°	30·120	78° 73°	S. S. W.				
4 "			78	80								
5 "			78	80					5	Cumulus	b. c.	
6 "			78	80								
7 "			79	80								
8 "			80	81								
9 "			80	81	80°	30·120	79° 70°	S. by E.				A few petrel about the ship.
10 "			81	82								
11 "			81	82				S. S. E.	4			
12 "	8° 24′	18° 57′	82	82				S. E.				
1 P. M.			80	82						Cum. st.	c.	Course N. W.
2 "			81	82								
3 "			80	82	80°	30·040	80° 70°					
4 "			80	82						Cumulus	b. c.	
5 "			80	82								
6 "			80	82					5			
7 "			80	82								Temp. water at 100 fathoms 66°.
8 "			79	81								
9 "			79	81	79°	30·120	79° 72°					
10 "			79	81								
11 "			79	81								
12 "			79	81								
Mean.			79·46	81·12	79	30·100						

U. S. SHIP VINCENNES.

FROM ST. HELENA TO NEW YORK.

1842.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 11.												
1 A. M.			79°	82°				S. E.	4	Clear.	b.	Course N. W.
2 "			79	82								
3 "			79	82	78°	30·040	80° 72°					
4 "			78	82								Zodiacal light very distinct, alt. 53°.
5 "			79	82								
6 "			79	82					5			
7 "			80	82								
8 "			81	82								
9 "			80	82	83°	30·060	81° 74°					
10 "			80	82						Cir. cum.	b. c.	
11 "			81	82								
12 "	7° 09′	21° 13′	82	82					4			Saw some flying-fish.
1 P. M.			80	82								
2 "			80	82								
3 "			80	82	80°	30·060	81° 73°	S.E.by E.				
4 "			80	82								
5 "			80	82								
6 "			80	82						Cumulus		Temperatnre of water at 100 fathoms, 66·5°.
7 "			80	82				S. E.				
8 "			80	82								
9 "			80	82	79°	30·010	80° 70°			Cum. st.		
10 "			80	82					5	Cir. cum.		
11 "			80	82					4			
12 "			80	82					5			
Mean.			79·87	82	80	30·042						
May 12.												
1 A. M.			80°	82°				S. E.	4	Cir. cum.	b. c.	Course N. W.
2 "			80	82					5			
3 "			80	82	78°	30·040	80° 74°					
4 "			80	82				S. E. by S.				
5 "			80	82						Cumulus		
6 "			80	82								
7 "			80	82								
8 "			80	82						Clear.	b.	
9 "			82	82	83°	30·040	81° 76°	S. E.	4			
10 "			82	82					5			
11 "			82	82								
12 "	5° 52′	23° 37′	82	82						Cir. cum.	b. c.	
1 P. M.			81	82								
2 "			81	82					4			Course N. W. by N.
3 "			81	82	81°	30·060	81° 76°					
4 "			81	82				S. E. by S.				
5 "			81	82						Cumulus	b.c. p.d	
6 "			80	82							b. c.	Temperature of water
7 "			76	82						Clear.	b.	at 100 fathoms, 67°.
8 "			79	82								
9 "			80	82	80°	30·040	81° 73°					
10 "			80	82				S. E.				
11 "			80	82								
12 "			80	82					5			
Mean.			80·33	82	80·5	30·045						

U. S. SHIP VINCENNES.

FROM ST. HELENA TO NEW YORK.

1842.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 13.												
1 A. M.			79°	82°				S. E.	4	Clear.	b.	Course N. W. by N.
2 "			79	82								
3 "			79	82	78°	30·040	81° 74°					
4 "			79	82								
5 "			79	82								Zodiacal light in the eastern horizon, altitude 50°.
6 "			80	82								
7 "			81	82				S. E. by S.				
8 "			82	82					3			
9 "			84	82	84°	30·050	81° 70°					
10 "			83	82								
11 "			84	82				E. S. E.				
12 "	4° 12′	25° 52′	84	83					4			
1 P. M.			82	82								
2 "			82	82				S. E.				Passed a Chilian ship standing to the S. W.
3 "			82	82	81°	30·060	80° 74°					
4 "			82	82				E. by S.	3	Cumulus	b. c.	
5 "			82	82								
6 "			80	82				E. N. E.	4			
7 "			81	82				E. by S.				Temperature of water at 100 fathoms, 66·5°.
8 "			81	82								
9 "			80	82	78°	30·060	80° 74°				b. c.	
10 "			80	82								
11 "			79	82						Clear.	b.	
12 "			79	82								
Mean.			80·96	82·04	80·25	30·052						
May 14.												
1 A. M.			80°	82°				E. by S.	4	Clear.	b.	Course N. W. by N.
2 "			80	82								
3 "			80	82	79°	30·080	80° 72°	East.	3			
4 "			80	82								
5 "			80	82				S. E.				
6 "			81	83						Cumulus	b. c.	Zodiacal light very distiuct, alt. 45°.
7 "			81	83				E. by S.				
8 "			82	83								
9 "			82	83	81°	30·060	81° 72°					
10 "			82	83								
11 "			83	83				E. S. E.	4			
12 "	3° 10′	27° 55′	83	83								
1 P. M.			82	83								
2 "			81	83				S. E. by S.				Course N. N. W.
3 "			81	83	81°	30·080	81° 70°		3			
4 "			81	83								
5 "			81	83					4			
6 "			81	83								
7 "			80	83								Temperature of water at 100 fathoms, 59°.
8 "			80	83								
9 "			80	82·5	82°	30·040	81° 76°					
10 "			80	82								
11 "			80	82								Water very phosphorescent.
12 "			80	82								
Mean.			80·87	82·65	80·75	30·065						

U. S. SHIP VINCENNES.

FROM ST. HELENA TO NEW YORK.

1842.	Lat. South.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 15.												
1 A. M.			79°	83°				S. S. E.	3	Cumulus	b. c.	Course N. N. W.
2 "			80	83								
3 "			80	83	80°	29·960	81° 78°	S. E.				
4 "			80	83				E. S. E.				
5 "			80	83								
6 "			80	83				E. by S.				
7 "			80	83				S. E.				
8 "			82	83								
9 "			84	83	*89°	30·000	81° 76°					* In the sun.
10 "			85	84								
11 "			85	84					4	Cir. stra.		
12 "	1° 47′	29° 29′	85	84				E. S. E.				
1 P. M.			83	84					3	Cumulus		
2 "			82	84								
3 "			82	84	84°	29·920	82° 76°					
4 "			82	84						Cumulus		
5 "			82	84				E. by S.		and		Temp. of water at 100
6 "			80	84						Cir. stra.		fathoms, 59°.
7 "			80	84								
8 "			80	84								
9 "			81	84	79°	30·000	81° 76°	East.				
10 "			81	83				E. N. E.				Entered the N. E.
11 "			81	83								trade winds.
12 "			81	83								
Mean.			81·46	83·5	83	29·970						
May 16.												
1 A. M.			80°	83°				E. N. E.	3	Cir. stra.	b. c.	Steering to the north-
2 "			80	83				N. E. by E.				westward.
3 "			80	82	79°	29·980	81° 75°					
4 "			80	82				N. N. E.				
5 "			80	82						Overcast.	o.	
6 "			80	82				N. E. by E.				
7 "			80	82								
8 "			80	82				N. E.	2		p. d.	
9 "			79	82	80°	29·980	82° 74°					
10 "			79	82						Nimbus.	c. u.	
11 "			81	82				N. E. by E.				
12 "	0° 31′	30° 32′	80	82								
1 P. M.			81	82					3			Saw some black-fish.
2 "			78	82							p.	
3 "			77	82		29·980	82° 76°				c.	
4 "			80	82				N. E.				
5 "			79·5	82								Temperature of water
6 "			79	82								at 100 fathoms, 67°.
7 "			77	82								
8 "			77	82								
9 "			76	82	77°	30·000	Rain.				c. u.	
10 "			78	82					5		p. q.	
11 "			77	82					2		c. u.	
12 "			77	81								
Mean.			78·98	82·04	78·66	29·985						

U. S. SHIP VINCENNES.

FROM ST. HELENA TO NEW YORK.

1842.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 17.												
1 A. M.			78°	81°				N. E.	2	Nimbus.	c.	Steering to the northward and westward.
2 "			78	80					1			
3 "			78	80	78°	29·950	80° 74°					
4 "			78	80								
5 "			78	81								
6 "			78	81				S. S. E.	2			
7 "			78	81					1	Overcast.	o.	
8 "			79	81				N. E.	2			
9 "			82	82	91°	29·980	81° 76°	N.E.by N				
10 "			81	81				N. N. E.	4		o. u.	
11 "			80	81				N. E.				
12 "	0° 33′	31° 09′	77	81					5			
1 P. M.			77	80					4			
2 "			77	80							r.	Saw an American ship.
3 "			76	80	75°	29·910	Rain.					
4 "			77	81					3		o.	
5 "			78	81								Temp. water at 100 fathoms, 65°.
6 "			78	81						Nimbus.	c.	
7 "			78	80								
8 "			78	80								
9 "			78	80	78°	29·980	80° 78°		4			Saw a number of Pyrosomæ.
10 "			78	80				N. N. E.		Overcast.	o.	
11 "			78	80								
12 "			78	80					2		r.	
Mean.			78·16	80·54	80·5	29·955						
May 18.												
1 A. M.			75°	80°				N. N. E.	2	Overcast.	r.	Steering to the northward and westward.
2 "			75	80								
3 "			71	80	69°	29·980	Rain.	S. S. W.	6			Water phosphorescent.
4 "			70	80					3		o.	
5 "			72	81				S. by E.	1			Rain 2·13 in.
6 "			73	80						Cir. stra.	c.	
7 "			73	80								
8 "			73	80				Calm.	0	Cum. st.		
9 "			74	79	72°	30·020		W^d.	1			
10 "			74	78						Overcast.	d.	
11 "			74	78				West.				Gannets and petrels about the ship.
12 "	1° 34′	31° 58′	76	79								
1 P. M.			74	80				South.				
2 "			75	80								
3 "			75	80	75°	29·980				Cir. stra.	b. c.	
4 "			74	80				Calm.	0	Cum. st.		
5 "			74	80								
6 "			74	80				Var.	1	Overcast.	o.	
7 "			74	80				Calm.			r.	A vessel in sight.
8 "			74	80								
9 "			74	80	74°	29·960	Rain.					
10 "			74	80				N^d.	1		d.	
11 "			74	80				N. E.				
12 "			74	80					2		o.	
Mean.			73·66	79·79	72·5	29·985						

U. S. SHIP VINCENNES.

FROM ST. HELENA TO NEW YORK.

1842.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 19.												
1 A. M.			74°	81°				N. N. E.	2	Overcast.	o.	Steering to the northward and westward.
2 "			74	81					3			
3 "			76	81	78°	29·960						
4 "			76	80				N. by E.				
5 "			77	79				N. N. E.				
6 "			77	79				N.E.by N				
7 "			77	79								A vessel in sight.
8 "			78	80				N. E.		Cum. st.	b. c.	
9 "			78	80	79°	30·000	80° 76°					
10 "			79	81								
11 "			79	81								
12 "	1° 44′	32° 45′	80	81								
1 P. M.			78	81				N.E.byE.				
2 "			78	81					2			
3 "			78	81	79°	30·000	80° 78°			Cir. cum.		
4 "			78	81								
5 "			78	81						Clear.	b.	Temperature of water at 100 fathems, 57·5°.
6 "			78	81								
7 "			78	81								
8 "			78	80				N. E.		Cir. cum.	b. c.	
9 "			78	81	78°	29·980	78° 76°					
10 "			78	81				N.E.by N				
11 "			78	81					3			
12 "			77	81								
Mean.			77·5	80·58	78·5	29·985						
May 20.												
1 A. M.			78°	80°				N. E.	3	Cir. cum.	b. c.	Steering to the northward and westward.
2 "			78	80								
3 "			78	80	76°	29·980	79° 76°	N. N. E.				
4 "			78	80					4		p. d.	
5 "			78	80								
6 "			78	80								
7 "			78	80				N. E.			c.	
8 "			78	80						Cumulus	b. c.	
9 "			79	80	79°	30·000	79° 77°					
10 "			80	80								Passed through a tide rip.
11 "			80	80				N.E.by N				
12 "	2° 58′	34° 03′	80	80								Saw some porpoises.
1 P. M.			79	81								
2 "			79	81								Passed through a tide rip.
3 "			79	80	77°	30·000	78° 76°	N. N. E.				
4 "			79	80								Temp. of water at 100 fathems, 56·5°; at 50 fathoms, 75·5°.
5 "			79	80				N. E.				
6 "			79	80				N.E.by N	5			
7 "			79	80							b. c. w.	Course N. W.
8 "			78	80								Passed through a tide rip.
9 "			78	80	77°	30·000	78° 76°			Clear.	b. w.	
10 "			78	80								
11 "			78	80								
12 "			78	80								
Mean.			78·58	80·08	77·25	29·995						

U. S. SHIP VINCENNES.

FROM ST. HELENA TO NEW YORK.

1842.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 21.												
1 A. M.			78°	80°				N. E.	5	Clear.	b. w.	Course N. W.
2 "			78	80								
3 "			78	80	76°	30·020	78° 76°					
4 "			78	80								
5 "			78	80								Zodiacal light very
6 "			78	80						Cumulus	b. c.	distinct.
7 "			79	80				NE.by N.	4			
8 "			79	80								
9 "			80	80	85°	30·020	80° 76°					
10 "			80	80						Clear.	b.	
11 "			80	80								Water disturbed by
12 "	4° 38′	36° 27′	80	80				E. N. E.				tide rips.
1 P. M.			80	80								
2 "			79	80								Temp. water at 100
3 "			78	80	80°	30·040	80° 76°					fathoms, 65°.
4 "			78	80								
5 "			78	80								
6 "			78	80								
7 "			78	80								Course N. W. by N.
8 "			78	80							b. w.	
9 "			78	80	76°	30·040	78° 76°	N. E.				
10 "			77	79								
11 "			77	79					5			
12 "			77	79								
Mean.			78·42	79·87	79·25	30·030						
May 22.												
1 A. M.			78°	79°				N. E.	5	Clear.	b. w.	Course N. W. by N.
2 "			78	79								
3 "			77	79	76°	30·040	78° 76°		4			
4 "			76	79								
5 "			76	79							b.	
6 "			76	79								
7 "			78	79								
8 "			78	79				N.E.byE.				
9 "			79	79	80°	30·040	80° 77°		5			
10 "			79	79					4			
11 "			80	80								
12 "	6° 41′	38° 50′	81	80								
1 P. M.			79	80								
2 "			78	80								
3 "			78	80	77°	30·060	80° 76°					
4 "			78	80						Cumulus	b. c.	Temp. water at 100
5 "			78	80								fathoms, 65°.
6 "			78	80				N. E.		Cir. cum.		
7 "			78	79								
8 "			78	79								
9 "			77	79	76°	30·080	78° 76°					
10 "			77	78								
11 "			76	78						Clear.	b.	
12 "			76	78						Overcast.	c.	
Mean.			78·21	79·21	77·25	30·055						

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FROM ST. HELENA TO NEW YORK.

1842.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 23.												
1 A. M.			76°	78°				N. E.	4	Overcast.	o. q.	Course N. W. by N.
2 "			76	78							q. r.	
3 "			74	78	73°	30·060	Rain.			Nimbus.	p.	
4 "			72	78				E. N. E.				A lunar rainbow seen.
5 "			74	79							r.	
6 "			76	79					5			
7 "			77	79				East.			c.	
8 "			77	79				E. N. E.	6			
9 "			78	79	77°	30·060	78° 76°			Cir. cum.	b. c.	
10 "			79	80								
11 "			80	80				N. E.				
12 "	8° 52′	40° 59′	80	80								
1 P. M.			78	79·5								
2 "			78	79·5						Clear.	b.	
3 "			78	79	76°	30·100	80° 76°	N.E.byE.				
4 "			78	79					7			
5 "			77	79								Water deep blue.
6 "			77	79								
7 "			77	79								
8 "			76	79						Nimbus.	c.	
9 "			76	78	76°	30·080	77° 75°		6			
10 "			76	78								
11 "			76	78						Cum. and Nimbus.		
12 "			76	78								
Mean.			76·75	78·71	75·5	30·075						
May 24.												
1 A. M.			76°	78°				N.E.byE.	6	Nimbus.	c.	Course N. W. by N.
2 "			72	78								
3 "			73	78	73°	30·080	Rain.				c. p.	
4 "			75	78								A lunar rainbow, alt. 27°.
5 "			76	78				N. E.				
6 "			76	78							d.	
7 "			76	78								
8 "			76	78				E. N. E.	5		c.	Temp. water at 100
9 "			77	78	74°	30·100	77° 76°	N. E.		Cir. cum.	b. c.	fathoms, 69°.
10 "			79	78				N. N. E.				
11 "			79	78								
12 "	11° 18′	43° 16′	79	79					6			
1 P. M.								NE.by N.		Nimbus.	c.	
2 "												
3 "					77°	30·080	78° 76°	N. E.				
4 "												
5 "										Nimbus and Cir. cum.		Course N. W.
6 "												
7 "												
8 "												
9 "					75°	30·060	76° 74°					
10 "									5		c. p.	
11 "											c.	
12 "												
Mean.			76·25	78·83	74·75	30·080						

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FROM ST. HELENA TO NEW YORK.

1842.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 25.												
1 A. M.			76°	77°				N. E.	5	Cir. cum.	b. c.	Course N. W.
2 "			75	77								
3 "			75	77	74°	30·080	77° 75°					
4 "			75	77				E. N. E.				
5 "			75	77				N. E.	4			
6 "			76	77								
7 "			77	77				E. by N.				
8 "			77	77								Temp. water at 100 fathoms, 69°.
9 "			79	78	78°	30·100	78° 76°					
10 "			79	78				E. N. E.				
11 "			80	78				N. E.				Saw a number of flying-fish.
12 "	13° 22′	45° 46′	79	78								
1 P. M.			77	78								
2 "			77	78								
3 "			77	77	76°	30·040	78° 74°					
4 "			76	77				E. N. E.				
5 "			76	77								
6 "			76	77						Nimbus.	c.	
7 "			76	77								
8 "			76	77					5	Cir. cum.		
9 "			76	77	74°	30·040	78° 76°					
10 "			73	77							p. d.	
11 "			72	76					6	Cum. st.		
12 "			72	76				N. E.		Nimbus.		
Mean.			76·12	77·16	75·5	30·065						
May 26.												
1 A. M.			72°	76°				N. E.	6	Nimbus.	q. p.	Course N. W.
2 "			73	76								
3 "			73	76	74°	30·060	78° 75°					
4 "			73	76								
5 "			72	76				N.E.byE.			q. c.	
6 "			71	76						Cumulus		Temp. water at 100 fathoms, 75·5°.
7 "			74	76								
8 "			75	76					5		b. c. q.	
9 "			76	77	76°	30·120	78° 76°					
10 "			76	77					6			
11 "			77	77				E. by N.				
12 "	15° 47′	48° 31′	77	77								
1 P. M.			75	77							b.c.p.q.	
2 "			76	77							b.c.q.	
3 "			76	77	76°	30·120	77° 76°					
4 "			76	77							b. c.	
5 "			76	77				E. N. E.				Temp. water at 106 fathoms, 74°.
6 "			76	77								
7 "			74	77								Passed a vessel steering to the S. W.
8 "			74	77								
9 "			75	76	76°	30·190	76° 73°					
10 "			76	76							p.	
11 "			76	76							b. c.	Water phosphorescent.
12 "			76	76								
Mean.			74·79	76·5	75·5	30·122						

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FROM ST. HELENA TO NEW YORK.

1842.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 27.												
1 A. M.			76°	77°				E. N. E.	6	Cir. cum.	b. c.	Course N. W.
2 "			76	77								
3 "			76	77	75°	30·200	77° 75°					
4 "			76	77								
5 "			76	77				N.E.byE.				
6 "			76	77								
7 "			76	77				N. E.				
8 "			77	77								
9 "			77	77	77°	30·200	78° 76°			Cumulus		
10 "			77	77								
11 "			77	77								Numbers of flying-fish.
12 "	18° 02′	51° 26′	77	77					5			
1 P. M.			78	77								Passed a brig standing to the westward.
2 "			77	77								
3 "			78	77	76°	30·200	78° 74°	E. N. E.		Cum. st.		
4 "			78	77					4			
5 "			74	77							p.	Temp. water at 100 fathoms, 75·5°.
6 "			74	77							b. c.	
7 "			74	77					6			
8 "			74	77						Cir. cum.		
9 "			76	76	74°	30·220	77° 74°					
10 "			75	77						Nimbus.	c.	
11 "			75	77								
12 "			74	77								
Mean.			76	76·96	75·5	30·205						
May 28.												
1 A. M.			74°	77°				E. N. E.	6	Nimbus.	c.	Course N. W.
2 "			73	77								
3 "			73	77	74°	30·220	77° 74°					
4 "			73	76					5		c. u.	
5 "			74	77					6		p. q.	
6 "			75	77					5		c.	
7 "			76	77				N.E.byE.		Cir. cum.	b. c.	Passing large quantities of Gulf-weed.
8 "			77	77								
9 "			78	78	77°	30·220	78° 76°					
10 "			77	77						Cumulus		
11 "			78	77								
12 "	20° 19′	54° 20′	78	77								Petrel, gannets, and other birds about.
1 P. M.			79	77				E. N. E.				
2 "			76	77						Clear.	b.	
3 "			76	77	76°	30·220	79° 76°					Course N. W. ½ W.
4 "			76	77				East.				
5 "			76	77				N.E.byE.				
6 "			76	77						Cir. cum.	b. c.	
7 "			75	77								
8 "			75	77								Temp. water at 100 fathoms, 75°.
9 "			76	77	75°	30·200	77° 74°					
10 "			76	77								
11 "			75	77								
12 "			74	77								
Mean.			75·66	77	75·5	30·215						

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1842.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 29.												
1 A. M.			74°	77°				N.E.byE.	5	Cumulus	b. c.	Course N. W. ½ W.
2 "			74	77								
3 "			74	77	73°	30·200	77° 75°					
4 "			74	77								
5 "			76	77								
6 "			76	77								
7 "			77	77								
8 "			78	77								
9 "			78	77	*81°	30·220	78° 74°	E. by N.				* In the sun.
10 "			78	77					4			
11 "			78	77						Clear.	b.	Passing through Gulf-weed during the day.
12 "	22° 16′	57° 09′	79	77								
1 P. M.			82	78						Cum. st.	b. c.	
2 "			80	78				E. N. E.				Petrel, gannets, and many other birds seen.
3 "			79	78	77°	30·200	78° 76°	East.				
4 "			78	78				E. by S.		Cumulus		
5 "			77	78								
6 "			76	78								Temp. water at 100 fathoms, 73°.
7 "			76	78						Cir. cum.		
8 "			76	77				East.				
9 "			75	77	75°	30·200	78° 75°					
10 "			75	77								
11 "			74	77								
12 "			74	77								
Mean.			76·58	77·29	76·5	30·205						
May 30.												
1 A. M.			75°	77°				E. by S.	4	Cumulus	b. c.	Course N. W. ½ W.
2 "			74	77								
3 "			74	77	74°	30·280	77° 74°					
4 "			74	77								
5 "			76	77				E. N. E.				
6 "			76	77				N. E.				
7 "			76	77				E. N. E.	3	Cir. cum.		
8 "			77	77								
9 "			78	77	*81°	30·280	78° 74°					* In the sun.
10 "			78	77				East.	4			
11 "			79	77				S. E.		Clear.	b.	Passing through large beds of Gulf-weed.
12 "	23° 51′	59° 58′	79	77								
1 P. M.			77	78						Cir. cum.	b. c.	
2 "			77	78				E. S. E.	3			
3 "			77	78	76°	30·280	78° 74°					
4 "			77	78				E. by S.		Clear.	b.	
5 "			77	78						Cum. st.	b. c.	
6 "			75	78								Temp. water at 100 fathoms, 71·5°.
7 "			74	78					4			
8 "			74	78				E. S. E.				
9 "			75	78	75°	30·260	75° 72°			Clear.	b.	
10 "			75	78								Water phosphorescent.
11 "			74	78								
12 "			74	78								
Mean.			75·92	77·5	76·5	30·275						

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1842.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
May 31.												
1 A. M.			74°	77°				S.E.	4	Cumulus	b. c.	Course N. W. ½ W.
2 "			73	77								
3 "			73	77	74°	30·280	75° 72°					
4 "			73	77								
5 "			74	77				S.E. by E.				Passed two ships steering to the eastward.
6 "			75	78						Cum. and Cir. stra.		
7 "			75	78								
8 "			76	78								
9 "			79	78	78°	30·260	76° 70°					
10 "			79	79				S. E.				Passed quantities of Gulf-weed in parallel rows from S. E. to N. W.
11 "			79	79								
12 "	25° 13′	61° 22′	79	79								
1 P. M.			78	79								
2 "			78	79								
3 "			78	79	76°	30·260	78° 76°					Saw a barque and a ship.
4 "			77	79				S. S. E.				
5 "			75	78								
6 "			75	78								Temp. water at 100 fathoms, 74°.
7 "			76	78				South.		Nimbus.	c.	Course N. W. by W.
8 "			72	78								
9 "			72	78	74°	30·260	Rain.	S. S. E.	7		q. p.	
10 "			74	78					5		c.	
11 "			75	78				S. E. by S.		Cir. stra.	b. c.	
12 "			76	77					5	Cumulus		
Mean.			75·42	78·04	75·5	30·265						
June 1.												
1 A. M.			75°	77°				South.	5	Cumulus	b. c.	Course N. W. by W.
2 "			75	77				S. S. E.				
3 "			75	77	74°	30·200	76° 70°		6			
4 "			75	77				S. by W.				
5 "			76	77						Nimbus.	c.	
6 "			78	77								
7 "			78	78				S. S. W.				
8 "			78	78						Cir. cum	b. c.	
9 "			77	78	76°	30·200	77° 70°					
10 "			79	78				S. S. E.				
11 "			79	78						Clear.	b. m.	
12 "	26° 48′	64° 09′	79	78								Passed quantities of Gulf-weed.
1 P. M.			79	78								
2 "			79	78								
3 "			79	78	75°	30·200	76° 70°					
4 "			79	78				S. by E.		Cir. stra.	b. c.	
5 "			77	78								
6 "			76	78					5			
7 "			76	78								Temp. water at 100 fathoms, 73°.
8 "			76	78				S. by W.	6			
9 "			76	77	74°	30·100	75° 70°					
10 "			76	77								
11 "			76	77								
12 "			76	77					8			
Mean.			77·04	77·58	74·75	30·175						

U. S. SHIP VINCENNES.

FROM ST. HELENA TO NEW YORK.

1842.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
June 2.												
1 A. M.			77°	77°				South.	8	Nimbus.	c.	Course N. W. by W.
2 "			77	77								
3 "			77	77	75°	30·100	76° 74°	S. S. W.				
4 "			77	77								
5 "			76	75							p. d.	
6 "			75	76								
7 "			75	76					6			
8 "			76	76								
9 "			76	76	75°	30·060	Rain.	S.W.byS.	5			Passed some Gulf-weed.
10 "			75	76								
11 "			74	76								
12 "	29° 04′	67° 44′	74	76								
1 P. M.			74	76					7		c.	
2 "			73	76								
3 "			72	76		29·920		S. W.	9		c. q.	Heavy sea from the S. W.
4 "			73	76					8			
5 "			73	76								
6 "			74	76								Steering to the northward and westward. Temp. water at 100 fathoms, 73°.
7 "			73	76				W. by S.	6		c. q. d.	
8 "			73	76				West.				
9 "			73	76		29·900	Rain.		5			
10 "			73	76				W. N. W.				
11 "			73	76				N. W.	4		c. d.	
12 "			73	76				N. by E.	3			
Mean.			74·42	76·12	75	29·995						
June 3.												
1 A. M.			72°	76°				N^{d}.	2	Nimbus.	c. d.	Steering to the northward and westward.
2 "			72	76					1			
3 "			72	76		29·920	Rain.					
4 "			72	76							c.	
5 "			72	76				Calm.	0			Sea going down.
6 "			72	76								
7 "			72	76				S^{d}.	1	Cir. cum.	b. c.	
8 "			73	76								
9 "			75	76		29·940	76° 74°					Passed large quantity of Gulf-weed.
10 "			76	76				S.E.by E.				
11 "			76	77								
12 "	30° 14′	69° 26′	76	77								Course N. W. by W.
1 P. M.			76	77					2			
2 "			76	77								
3 "			76	76		30·000	76° 73°	S. E.		Overcast.	o.	
4 "			75	76								
5 "			75	76						Clear overhead	b. c.	
6 "			75	76				S. S. E.				Temp. water at 100 fathoms, 69°.
7 "			75	76								
8 "			74	76								
9 "			75	76		30·010	75° 73°					
10 "			75	76				South.				
11 "			75	76								
12 "			75	76								
Mean.			74·25	76·16		29·967						

U. S. SHIP VINCENNES.

FROM ST. HELENA TO NEW YORK.

1842.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
June 4.												
1 A. M.			75°	76°				S^{d}.	2	Cir. cum.	b. c.	Course N. W. by W.
2 "			75	76								
3 "			75	76	73°	30·020	76° 73°		1			
4 "			74	76					2			
5 "			74	76						Nimbus.	c.	
6 "			73	76								
7 "			73	75				Var.	1			
8 "			73	75								Detached pieces of Gulf-weed passed
9 "			73	75		30·000	Rain.				r.	during the day.
10 "			72	75								
11 "			75	76						Cir. stra.	b. c.	Spoke the American schooner Exchange,
12 "	30° 40′	70° 15′	76	77								
1 P. M.			79	78				Calm.	0			five days from New
2 "			78	79				NWbyW	1			York.
3 "			78	79	76°	30·020	77° 74°	N. N. W.				Steering to the west-
4 "			78	79				N. W.	2			ward.
5 "			77	79				N. by W.	1	Nimbus.	c. u.	Temp. water at 100 fathoms, 72·5°.
6 "			76	78								
7 "			74	77				S. E.				Course N. W. by W.
8 "			74	77					2			
9 "			73	76	73°	30·020	74° 72°	Var.	1	Cir. cum.	b. c. l. l.	
10 "			73	76				S^{t}.				
11 "			73	76					2	Nimbus.		
12 "			73	76								
Mean.			74·75	76·62	74	30·015						
June 5.												
1 A. M.			73°	76°				S. E.	2	Nimbus.	c. t. l.	Course N. W. by W.
2 "			73	76								
3 "			72	76	73°	30·020	76° 73°	E. S. E.				
4 "			74	75								
5 "			74	76				E. by S.				
6 "			75	76					3	Cir. stra.	b. c. l.	
7 "			75	76				S. E.	2			
8 "			76	76							c. d. l.	Passed a very distinct
9 "			76	76		30·060	Rain.					line of Gulf-weed,
10 "			75	76							b. c.	tending N. N. E. and
11 "			75	77								S. S. W.
12 "	31° 00′	71° 03′	75	77					3			
1 P. M.			78	77				Var.	1	Cumulus		Steering to the west-
2 "			79	78				N. W.				ward.
3 "			80	78	78°	30·060	76° 74°	Var.		Cirrus.		
4 "			80	78								
5 "			78	78				Calm.	0			
6 "			74	77								Temp. water at 100
7 "			75	77				W. S. W.	1			fathoms, 70·5°.
8 "			74	77				S.W.byS.	2			Steering to the north-
9 "			74	77	74°	30·060	74° 72°					ward aud westward.
10 "			74	77						Clear.	b.	
11 "			74	77				S. S. W.				Course N. N. W.
12 "			74	77					3			
Mean.			75·29	76·71	75	30·050						

U. S. SHIP VINCENNES.

FROM ST. HELENA TO NEW YORK.

1842.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
June 6.												
1 A. M.			74°	76°				S. S. W.	4	Clear.	b.	Course N. N. W.
2 "			74	76								
3 "			74	76	74°	30·060	75° 73°		5			
4 "			74	76								
5 "			75	76								
6 "			76	76				S. W.				
7 "			77	76					3	Cirrus.	b. c.	
8 "			76	75								Passing Gulf-weed.
9 "			76	75	76°	30·040	76° 70°					
10 "			77	75								
11 "			77	75				SWbyW.				
12 "	32° 18′	71° 49′	78	76						Clear.	b.	Stormy petrels about the ship.
1 P. M.			81	76					4			
2 "			81	76								
3 "			81	76		30·040	76° 72°					
4 "			80	77				S. W.				
5 "			78	75								
6 "			77	75								
7 "			74	74				SWbyW.				Temp. water at 100 fathoms, 68°.
8 "			74	74								
9 "			74	74		30·020	76° 74°		5			
10 "			74	74								
11 "			74	74				W. S. W.		Cir. cum.	b. c.	
12 "			74	74				West.				
Mean.			75·82	75·29	75	30·040						
June 7.												
1 A. M.			68°	74°				W. N. W.	6	Nimbus.	c. u.	Steering to the northward.
2 "			68	74					5			
3 "			68	74	66°	30·040	76° 73°	West.				
4 "			69	74				W. N. W.				
5 "			69	74								
6 "			70	73				W. by N.		Overcast.	o.	
7 "			71	73				N. W.	6			
8 "			72	73				N. N. W.			o. d.	Steering to the westward.
9 "			71	73	73°	30·100	Rain.					
10 "			71	72				Nd.	7			Sea rising from the N. E.
11 "			71	72				N. N. E.			o.	
12 "	34° 24′	72° 50′	70	73						Stratus.	c.	
1 P. M.			70	73				N. E. by E.				
2 "			70	73					6			
3 "			70	73		30·160	76° 72°					
4 "			70	73					5		c. q.	Course N. W. by N.
5 "			69	74						Nimbus.		Passed a ship steering S. E.
6 "			69	74					7	Overcast.	o.	
7 "			67	73							o. d. q.	Temp. water at 100 fathoms, 70°.
8 "			69	73					8			
9 "			69	77		30·300	Rain.	N. N. E.				Entered the Gulf Stream.
10 "			70	77					6	Nimbus.	c. q.	
11 "			70	77								Water phosphorescent.
12 "			70	77								
Mean.			69·62	73·87	69·5	30·150						

U. S. SHIP VINCENNES.

FROM ST. HELENA TO NEW YORK.

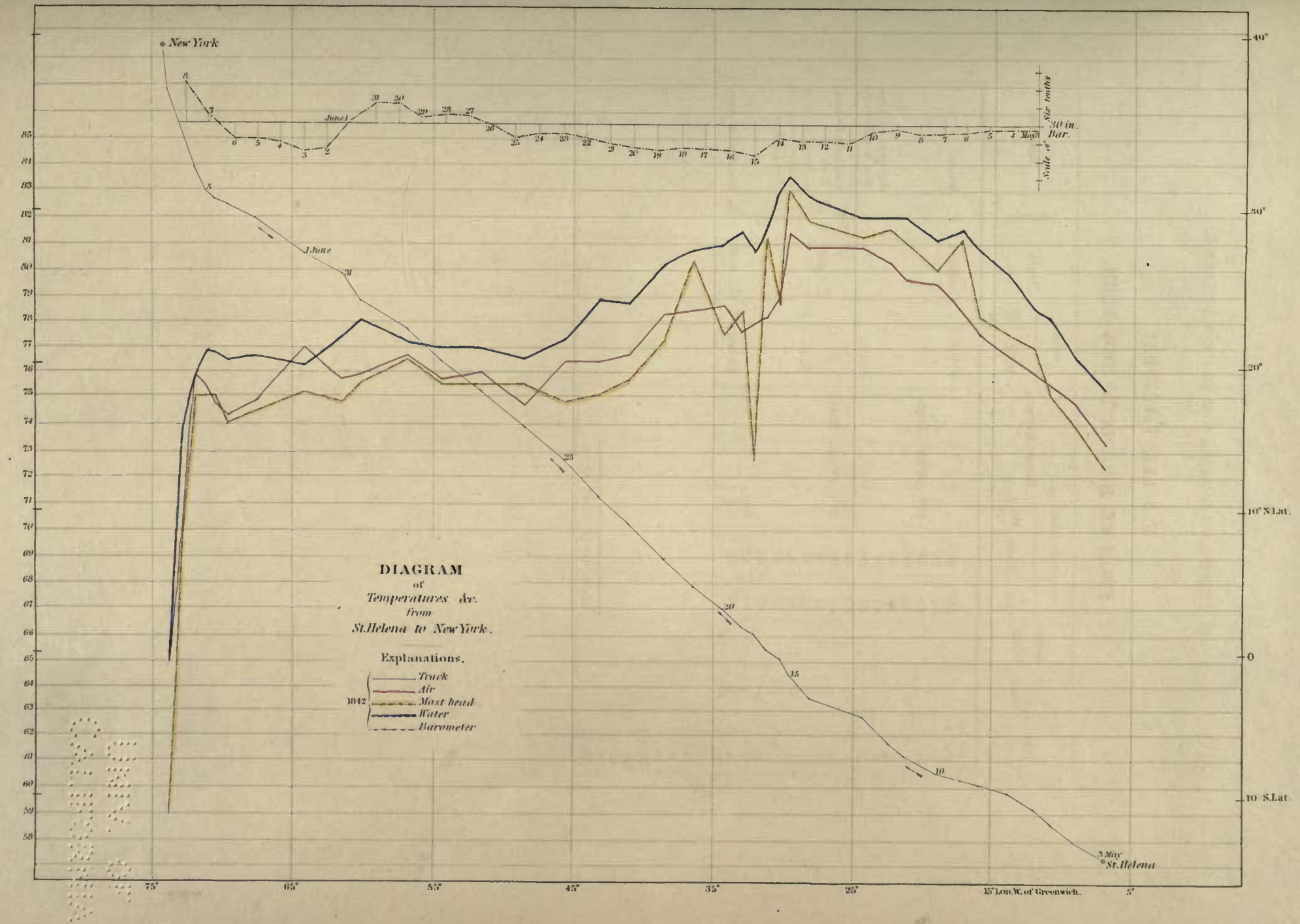
1842.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
June 8.												
1 A. M.			71°	78°				N. E.	5	Nimbus.	c. q.	Course N. N. W.
2 "			70	78								
3 "			70	79	69°	30·320	72° 69°	E. N. E.				Left the Gulf Stream.
4 "			68	77				East.	6	Overcast.	o.	Temp. water at 100 fathoms, 63°.
5 "			68	68								
6 "			68	69							o.q.p.d.	Water dark green.
7 "			68	70					4			
8 "			68	70				E. by N.				
9 "			69	69	67°	30·340	Rain.					
10 "			70	73				N.E.byE.			g. d.	
11 "			66	60								
12 "	37° 12′	73° 59′	65	61								
1 P. M.			66	63								
2 "			65	63				E. N. E.			m. d.	Saw two sails.
3 "			64	62	63°	30·300	Rain.		5			
4 "			63	60				E. by N.				
5 "			63	60								
6 "			62	60								
7 "			62	60				East.			m. r.	
8 "			61	57				E. S. E.				Course N. by E.
9 "			60	57	60°	30·320	Rain.		6			
10 "			60	57					5		r.	Sounded in 40 fms.; bottom yellow sand.
11 "			60	57								
12 "			61	58							d.	
Mean.			65·33	64·83	64·75	30·320						
June 9.												
1 A. M.			60°	58°				E. S. E.	5	Overcast.	F.	Course N. by E.
2 "			59	57								
3 "			60	57	64°	30·320	Rain.					
4 "			60	57							r.	Sounded in 22 fms.; bottom gray sand.
5 "			60	58				S. E.				
6 "			61	58					4			
7 "			61	58							m. d.	
8 "			61	58				South.				
9 "			61	59	60°	30·100	Fog.		3		f.	
10 "			62	59				S. by W.				
11 "			63	59							F.	
12 "	39° 45′	73° 54′	63	59								Sounded in 13 fms.; yellow sand.
1 P. M.			62	60				South.				
2 "			63	60							f.	
3 "			63	60		30·100	Fog.	S. W.				
4 "			62	59					4	Stratus.	b. c.	The coast of New Jersey in sight to the westward.
5 "			63	61				S. by W.				
6 "			62	60				S. S. E.				
7 "			61	60						Overcast.	f.	
8 "			61	60				South.				Hove to.
9 "			61	60		29·900	Fog.					
10 "			60	59							F.	
11 "			60	59								
12 "			60	60								
Mean.			61·21	58·96	62	30·105						

U. S. SHIP VINCENNES.

FROM ST. HELENA TO NEW YORK.

1842.	Lat. North.	Long. West.	THERMOMETERS. Air.	Water.	Mast-head.	Barom.	Hygrom.	WIND. Direc.	Force.	Clouds.	Weather.	Remarks.
June 10.												
1 A. M.			60°	59°				S. Wd.	3	Overcast.	F.	Hove to.
2 "			61	60								
3 "			61	60	59°	29·940	Rain.				f.	
4 "			61	60								
5 "			61	60					4		F.	
6 "			61	60								Highlands of Never
7 "			62	60				South.			r.	Sink in sight to the
8 "			63	60								N. W.
9 "			63	60	63°	29·940	Rain.				d.	Standing in for Sandy
10 "			64	60						Cir. stra.	b. c.	Hook.
11 "			65	60				S. E.	3			Anchored in 7 fa-
12 "			66	60								thoms water, on
1 P. M.			67	62								New York bar.
2 "			67	62						Clear.	b.	
3 "			70	62	69°							
4 "			73	62				Calm.	0	Cir. cum.	b. c.	Discharged the crew.
5 "												
6 "												
7 "												
8 "												
9 "												
10 "												
11 "												
12 "												
Mean.			64·06	60·44	63·66	29·940						

New York Harbour.


New York
June 1
1 June
3 May
St. Helena
30 in. Bar.
Scale of Six tenths
40°
30°
20°
10° N Lat.
0
10 S. Lat.
75°
65°
55°
45°
35°
25°
15° Lon. W. of Greenwich.
5°
DIAGRAM
of
Temperatures &c.
from
St. Helena to New York.
Explanations.
1842
Track
Air
Mast head
Water
Barometer

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Google

APPENDIX.

APPENDIX I.

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP PEACOCK.

DECEMBER, 1840.

Date.	POSITION AT NOON.		3 A.M.						9 A.M.							3 P.M.							9 P.M.					
			BAROMETER AND THERMOMETERS.						BAROMETER AND THERMOMETERS.							BAROMETER AND THERMOMETERS.							BAROMETER AND THERMOMETERS.					
	Latitude.	Longitude.	Barometer.	Air.	Water.	Mast-head.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Sun.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Sun.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Wind.	Weather.
1	At Honolulu	At Honolulu.	29·92	68°	73°		Calm.	b.	29·00	84°	75°		100°	Sd. and Ed.	p.	29·86	77°	76°			Variable.	c.	29·92	66°	74°		Nd. and Ed.	r.
2	"	"	29·90	68	74		Nd. and Ed.	r	29·70	82	76			Nd. and Ed.	"	29·90	74	75			Nd. and Ed.	p.	30·00	74	75		Nd. and Ed.	p.
3	Off Oahu.	Off Oahu.	29·90	74	76		Nd. and Ed.	b.	29·70	78	77	82°	98	Nd. and Ed.	"	29·87	76	76	75°	89°	Nd. and Ed.	b.	29·90	76	77	74°	Nd. and Ed.	"
4	19° 18′ 30″ N.	158° 37′ 45″ W.	29·96	76	77		E. S. E.	"	29·98	78	78	79	92	S. E.	"	29·90	79	78	78		S. E.	p.	30·00	77	77	77	S. E.	"
5	17° 42′ 20″ N.	160° 03′ 30″ W.	29·92	78	77	76°	S. E.	"	30·00	80	78	78	110	S. E.	b.	29·99	79	78	78	92	S. E. ½ S.	"	30·03	78	77	78	E. S. E.	"
6	16° 13′ 20″ N.	160° 23′ 00″ W.		78	77	77	E. by S.	"	30·00	80	78	80	09	East.	p.	29·70	80	78	80		E. N. E.	"	30·30	80	79	78	E. by N. ½ N.	"
7	13° 17′ 40″ N.	160° 41′ 00″ W.	30·00	79	79	79	E. by N. ½ N.	c.	30·30	82	80	80	86	E. by N. ½ N.	"	30·00	82	80	81	90	E. N. E.	"	30·00	81	80	77	N. E. by E.	"
8	10° 14′ 00″ N.	160° 19′ 15″ W.	29·96	82	81	81	N. E. by E.	c.	30·00	82	81	81	94	N. E. by E.	"	29·90	82	82	82		N. E. by E.	c.	29·94	82	82	81	N. E. by E.	c.
9	7° 13′ 00″ N.	159° 58′ 00″ W.	29·95	82	82	79	E. N. E.	b.	29·93	85	82	82	C.	E. N. E.	"	29·86	83	83	83	99	E. N. E.	p.	29·94	83	83	82	E. by N.	p.
10	5° 09′ 00″ N.	159° 33′ 00″ W.		82	83	81	N. E.	c.	29·90	82	83	81		East.	"	29·85	82	83	82	94	E. N. E.	c.	29·85	82	83	81·50	E. N. E.	"
11	4° 41′ 00″ N.	160° 18′ 20″ W.	29·86	81	83	80	E. by N. ½ N.	p.	29·83	81	83	79		Nd. and Ed.	q.	29·82	83	84	83	99	Nd. and Ed.		29·85	81	83	79	E. N. E.	"
12	4° 31′ 00″ N.	159° 27′ 30″ W.	29·82	78	82	77	Sd. and Ed.	r.	29·90	84	83	83	95	Sd. and Ed.	p.	29·83	75	83	73		Ed.		29·86	78	82	77	Calm.	c.
13	4° 46′ 20″ N.	159° 51′ 30″ W.	29·84	75	83	75	N. E.	p.	29·83	82	84	82		S. E.	q.	29·75	82	84	80	92	E. by N.	p.	29·75	82	84	82	N. E. by E.	"
14	4° 42′ 00″ N.	160° 32′ 15″ W.	29·97	82	84	80	E. S. E.	b.	29·80	78	84	77		Variable.	r.	29·70	81	83	79		N. E.	c.	29·80	79	83	78	N. E. by E.	r.
15	4° 15′ 00″ N.	160° 49′ 45″ W.	29·78	79	82	78	East.	"	29·80	83	83	82	90	East.	p.	29·70	83	84	82	92	Sd. and Ed.	r.	29·80	78	83	79	E. by S. ½ S.	q.
16	4° 30′ 45″ N.	160° 29′ 15″ W.	29·77	80	84	79	Sd. and Ed.	r.	29·80	84	84	84	96	E. by N.	r.	29·70	83	84	83	C.	E. by S.	q.	29·80	82	84	81	E. by S.	"
17	3° 40′ 00″ N.	160° 31′ 30″ W.	29·76	81	82	80	E. by S. ½ S.	b.	29·00	83	83	83	92	E. by S. ½ S.	p.	29·75	83	83	83	96	E. by S.	p.	29·83	81	83	82	East.	p.
18	1° 56′ 00″ N.	160° 29′ 15″ W.	29·05	82	83	81	E. by N.	"	29·86	83	83	82	93	East.	"	29·74	82	83	81	00	East.	"	29·85	81	83	80	E. by N.	"
19	21′ 06″ N.	160° 05′ 00″ W.	29·90	81	81	80	E. by N. ½ N.	"	29·80	82	82	81	94	E. ½ N.	"	29·89	83	83	81	98	E. ½ N.	"	29·00	81	82	79	E. ½ N.	"
20	28′ 15″ S.	159° 49′ 00″ W.	29·81	81	82	80	Ed.	"	29·83	83	82	83	98	East.	"	29·77	83	82	82		E. ½ N.	"	29·83	82	83	83	E. by S.	"
21	1° 55′ 00″ S.	160° 15′ 30″ W.	29·78	80	82	80	E. by S.	"	29·87	83	83	82	92	E. by S. ½ S.	"	29·86	84	83	84	96	East.	"	29·80	82	82	81	East.	"
22	1° 50′ 30″ S.	160° 20′ 45″ W.	29·87	81	83	80	E. ½ N.	"	29·88	84	81	84	96	E. by N.	"	29·80	83	83	83	90	E. by N.	"	29·00	82	83	81	N. E. by E. ½ E.	"
23	1° 31′ 00″ S.	160° 27′ 30″ W.	29·95	82	82	79	N. E. by E. ½ E.	"	29·85	85	82	81	100	E. N. E.	"	29·80	84	83	81	98	E. by N. ½ N.	"	29·95	81	82	81	E. by N. ½ N.	"
24	1° 21′ 00″ S.	160° 25′ 15″ W.	29·85	81	82	80	E. ½ N.	"	29·87	84	82	82	106	E. by N.	"	29·80	82	82	81	C.	E. by S.	"	29·80	80	81	81	Ed.	"
25	3° 25′ 00″ S.	160° 20′ 00″ W.	29·84	80	82	80	East.	"	29·84	84	82	82	93	East.	"	29·82*	83	83	82	C.	East.	"	29·82	82	82	81	E. ½ S.	"
20	4° 54′ 20″ S.	160° 04′ 00″ W.	29·85	83	83	82	E. by N.	"	29·85	83	84	82	C.	Ed.	r.	29·77	84	83	83	90	E. ½ N.	"	29·82	83	83	81	E. by N. ½ N.	"
27	5° 52′ 15″ S.	159° 30′ 15″ W.	29·91	82	83	81	East.	"	29·80	85	84	82	100	E. by N.	p.	29·78	84	84	84	106	Nd. and Ed.	"	29·80	84	84	81	N. E. by E.	c.
28	5° 56′ 00″ S.	159° 02′ 45″ W.	29·80	83	84	81	Ed.	"	29·81	84	84	83	90	Nd. and Ed.	"	29·80	85	84	84	96	N. E.	"	29·87	84	84	82	E. N. E.	p.
29	4° 15′ 30″ S.	159° 26′ 30″ W.	29·83	82	83	81	N. E. by E.	"	29·84	84	83	83	92	N. E. by E. ½ E.	"	29·75	84	83	82	94	N. E.	"	29·90	82	83	81	N. E. by E.	c.
30	2° 58′ 22″ S.	159° 52′ 00″ W.	29·85	82	81	80	E. N. E.	"	29·84	83	82	82	90	E. N. E.	"	29·82	83	82	82	C.	E. by N. ½ N.	"	29·95	82	82	81	East.	Var.
31	2° 06′ 00″ S.	160° 06′ 00″ W.	29·90	80	81	80	E. N. E.	c.	29·90	83	82	82	104	E. N. E.	"	29·80	84	82	82	96	E. N. E.	"	29·83	81	82	82	E. by N.	m.

II.

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP PEACOCK.

JANUARY, 1841.

Date.	POSITION AT NOON.		3 A.M.						9 A.M.							3 P.M.							9 P.M.					
			BAROMETER AND THERMOMETERS.						BAROMETER AND THERMOMETERS.							BAROMETER AND THERMOMETERS.							BAROMETER AND THERMOMETERS.					
	Latitude.	Longitude.	Barometer.	Air.	Water.	Mast-head.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Sun.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Sun.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Wind.	Weather.
1	3° 00′ 00″ S.	159° 40′ 00″ W.	29·82	81°	82°		E. by N.	b.	29·83	82°	82°	80°	102°	N.E.by E.½E.	b.	29·80	83°	83°	82°	100°	E. by N.	b.	29·80	81°	82°	81°	E. N. E.	b.
2	4° 02′ 00″ S.	158° 36′ 45″ W.	29·89	80	82	79°	N.E.byE.½E.	"	29·80	83	83	82	100	N. E. ½ E.	"	29·70	83	83	82	98	N. E. ½ E.	"	29·80	81	82	80	N.E.byE.½E.	"
3	1° 49′ 56″ S.	159° 20′ 00″ W.	29·87	81	82	80	E. N. E.	"	29·80	81	81	80	94	N.E.by E.½E.	"	29·75	81	81	80	88	E. N. E.	"	29·82	81	81	80	N.E.byE.½E.	"
4	1° 41′ 00″ S.	160° 05′ 00″ W.	29·80	79	81	78	N. E. by E.	"	29·81	81	81	82	96	E. ½ S.	"	29·80	83	81·5	82	100	E. ½ S.	"	29·85	80	80	80	E. by S. ½ S.	"
5	2° 34′ 20″ S.	160° 24′ 15″ W.	29·77	80	81	80	E. ½ S.	"	29·80	83	81	80	96	N. E. by E.	"	29·74	82	82	80	94	N. E. by E.	"	29·80	81	82	80	N. E.	"
6	2° 59′ 00″ S.	162° 10′ 30″ W.	29·80	80	80	81	N. E.	"	29·82	83	82	81	103	N. E. by N.	"	29·75	82	82	81	96	N. E. by E.	"	29·73	81	82	79	N. E.	"
7	2° 29′ 15″ S.	165° 50′ 00″ W.	29·83	82	82	80	N. E.	"	29·82	83	82	83	C.	N. E.	c.	29·73	80	82	80	C.	N. E. to N.	c.	29·83	82	82	81	E. N. E.	c.
8	2° 14′ 00″ S.	168° 44′ 30″ W.	29·77	80	82	79	E.	c.	29·80	83	83	82	C.	N. E. by E.	"	29·80	84	83	84	96	E. N. E.	b.	29·80	82	83	82	E.	"
9	2° 57′ 30″ S.	170° 41′ 30″ W.	29·77	81	82	80	E.	"	29·80	84	83	83	C.	E. by N.	b.	29·66	83	83	82	104	E. by N.	"	29·83	82	83	81	N. E. by E.	b.
10	3° 09′ 40″ S.	170° 42′ 30″ W.	29·77	83	83	80	E. N. E.	"	29·82	84	83	84	100	E. by N. ½ N.	"	29·70	84	83	83	106	E.	"	29·82	83	83	83	E. by N. ½ N.	c.
11	3° 35′ 20″ S.	171° 00′ 30″ W.	29·78	83	83	82	N. E. by E.	b.	29·80	83	83	83		N. E. by E.	"	29·80	86	84	83	98	N. E. by E.	"	29·82	82	82	81	N. E. ½ N.	"
12	2° 38′ 00″ S.	171° 47′ 30″ W.	29·81	80	82	80	N. E.	c.	29·81	84	83	82	94	N. E.	"	29·73	83	83	82	98	N. E.	"	29·80	82	83	80	N. E.	b.
13	2° 58′ 00″ S.	172° 11′ 45″ W.	29·79	82	82	81	N.E.byE.½E.	b.	29·82	84	83	84	100	Nd. and Ed.	"	29·75	84	83	82	94	N. E. ½ E.	"	29·80	82	83	82	N. E. by E.	"
14	3° 50′ 00″ S.	172° 25′ 30″ W.	29·77	82	82	82	E. by N.	"	29·81	84	83	83	110	E. by N.	"	29·70	84	84	83	98	E. N. E.	"	29·80	83	84	82	E.	c.
15	4° 17′ 30″ S.	172° 33′ 00″ W.	29·80	81	83	81	E. by N.	"	29·80	86	83	84	97	E.	r.	29·75	86	85	83	105	E. by N.	"	29·80	83	84	83	N. E. ½ E.	b.
16	5° 21′ 15″ S.	171° 32′ 00″ W.	29·81	82	84	81	N. E. ½ N.	"	29·80	85	85	82	C.	N. E.	b.	29·73	83	85	82	109	N. E. by E.	"	29·75	83	85	80	N. E.	"
17	4° 28′ 10″ S.	172° 00′ 00″ W.	29·80	82	84	82	N. E. by N.	"	29·80	84	84	83	103	N. E. by E.		29·86	83	85	83	100	E. ½ S.	"	29·70	84	84	82	E.	"
18			29·72	82	84	82	E.	"	29·80	86	84	84	106	E.	"	29·70	83	84	83		E. by N.	"	29·80	83	81	80	N. N. W.	c.
19	4° 32′ 00″ S.	173° 08′ 45″ W.	29·80	82	84	82	Nd. and Ed.	r.	29·80	84	84	83	99	N. E.	c.	29·70	84	84	84	96	N. E. by N.	c.	29·80	84	84	82	N. E. by N.	"
20	7° 12′ 00″ S.	173° 05′ 00″ W.	29·79	84	84	80	N. E. by N.	c.	29·80	85	85	84	C.	N. E.	"	29·80	86	85	84	C.	N. N. E.	"	29·90	84	85	83	N.	"
21	7° 10′ 20″ S.	173° 25′ 00″ W.	29·86	82	85	82	Nd. and Ed.	"	29·86	86	85	85	107	E. N. E.	b.	29·80	89	87	85	100	N. E. by E.	b	29·85	83	86		E. N. E.	"
22	8° 01′ 30″ S.	173° 08′ 45″ W.	29·84	84	85	84	E. by N.	b.	29·88	86	85	86	98	E. by N.	c.	29·85	86	86	83	107	E.	"	29·85	86	86	84	E. ½ S.	b.
23	9° 25′ 00″ S.	172° 51′ 30″ W.	29·86	86	85	84	E.	"	29·85	87	86	86	100	E. ½ N.	b.	29·80	87	86	86	103	E.	"	29·80	86	86	84	Variable. E.	c.
24	9° 39′ 11″ S.	172° 28′ 15″ W.	29·81	82	86	82	E. N. E.	c.	29·80	90	86	85	108	E. by N. ½ N.	c.	29·77	87	86	84	98	Var. Ed.	"	29·80	85	86	84	E. by N.	"
25	9° 35′ D. R.	172° 07′ 15″ W. Ch.	29·80	83	86	82	Var. Ed.	q.	29·86	83	86	82	91	Nd. and Ed.	"	29·83	85	86	84	C.	N. N. E.	c.	29·80	85	86		E. ½ N.	b.
26	9° 02′ 45″ S.	171° 52′ 00″ W.	29·78	78	86	80	E. by S.	b.	29·81	82	85	82	C.	Baffling.	"	29·75	84	86	84		N.	"	29·80	83	86	83	Baffling.	"
27	8° 55′ 00″ S.	171° 17′ 30″ W.	29·80	83	86	84	N. W.	"	29·82	86	86	84	108	E. N. E.	b.	29·74	86	88	86	100	S. E. by E.	b.	29·85	85	86	83	Ed.	"
28	9° 06′ 00″ S.	171° 17′ 15″ W.	29·76	83	86	83	N. N. W.	c.	29·80	87	86	85	110	W.	"	29·74	87	88	85	127	Nd.	c.	29·80	83	86	83	N. by E.	q. r.
29	9° 28′ 30″ S.	170° 44′ 40″ W. Ch.	29·74	78	85	78	Nd. and Ed.	r.	29·80	83	85	83	100	W.	c.	29·80	87	87	85	C.	Calm.	b.	29·85	79	83	78	E. N. E.	r.
30	9° 20′ 45″ S.	170° 46′ 15″ W.	29·83	82	84	82	W. N. W.	c.	29·80	83	86	83	C.	N. by E.	b.	29·75	85	85	84	109	N. W.	"	29·80	84	86	83	N. and W.	c.
31	9° 54′ 18″ S.	169° 56′ 00″ W.	29·79	84	86	84	W. by N.	b.	29·82	79	86	78		Squalls.	q.	29·77	82	85	83		N. N. W.	c.	29·83	80	85	78	Nd. and Ed.	c. r.

III.

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP PEACOCK.

FEBRUARY, 1841.

Date.	POSITION AT NOON.		3 A.M.						9 A.M.						3 P.M.						9 P.M.					
			BAROMETER AND THERMOMETERS.						BAROMETER AND THERMOMETERS.						BAROMETER AND THERMOMETERS.						BAROMETER AND THERMOMETERS.					
	Latitude.	Longitude.	Barometer.	Air.	Water.	Mast-head.	Wind.	Weather.	Barometer.	Air.	Water.	Mast head.	Sun.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Sun.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Wind.	Weather.
1	11° 08′ 40″ S.	170° 18′ 45″ W.	29·74	80°	85°		W. S. W.	c.	29·86	85°	86°	85°	C.	Sd. and Wd.	c.	29·75	84°	86°	83°		Variable.	q.	29·75	84°	86°	81°	W.	b.
2	11° 12′ D. R.	170° 45′ D. R.	29·75	80	85		Nd. and Wd.	r.	29·80	80	83	80		S.	r.	29·80	79	85	78	C.	Nd. and Wd.	c.	29·80	79	85		N. W.	"
3			29·77	80	85		Nd. and Wd.	c.	29·80	81	85	81		Sd. and Wd.	"	29·80	83	86	83		W. N. W.	r.	29·80	83	85		W. by N.	c.
4	11° 14′ 36″ S.	170° 33′ 00″ W.	29·74	84	85	82°	W. by N.	q.	29·75	85	85	84	C.	W.	c.	29·75	85	85	85	94°	W. N. W.	c.	29·75	84	85	83	W. by N.	"
5	12° 56′ 47″ S.	171° 12′ 30″ W.	29·72	84	86		Baffling.	c.	29·75	88	86	86	C.	W. by S.	b.	29·70	86	86	84	109	W. ½ S.	"	29·75	84	86		W. S. W.	b.
6	13° 35′ 30″ S.	171° 20′ 00″ W.	29·70	84	86	83	Variable.	b.	29·80	86	86	85	126°	W. by N.	"	29·72							29·80					
7	Harbour of Apia.		29·71	79	84	78		c.	29·70	84	84	83	92		"	29·80	85	86	84			"	29·75	80	84		Variable.	c.
8	"	"					N. and W.	r.	29·75	78	84	78		Variable.	"	29·75	78	84	76		Variable.	r.	29·75	75	84	74	Sd. and Wd.	"
9	"	"	29·77	74	83	73	Calm.	c.	29·75	78	83	77	C.	Variable.	c.		84	85	81	C.	Nd. and Wd.	c.	29·80	79	84	80	Nd. and Wd.	r.
10	"	"	29·74	78	84	73	N. and W.	r.	29·80	80	84	79	C.	N. by W.	r.	29·70					Nd. and Wd.	r.	29·80	78	84		N.	"
11	"	"	29·78	78	79	78	Sd. and Ed.	"	29·82	78	78			Nd. and Wd.	"	29·81	76	78			Nd. and Wd.	"	29·85	74	77	74	Variable.	c.
12	"	"	29·86	78	78		Nd. and Wd.	"	29·90	77	80	77		Variable.	"	29·80	79	80	78		Sd. and Ed.	c.	29·90	77	78		Nd.	r.
13	"	"	29·83	74	76	74	Calm.	"	29·90	79	79	78		Wd.	"	29·84	78	78	77		Sd. and Ed.	r.	29·90	77	80	76	Variable.	c.
14	13° 49′ 56″ S.	171° 09′ W.	29·86	76	78		Sd. and Ed.	b.	29·90	84	82	83		Calm.	b.	29·85	84	86	83	127	N. N. W.	b.	29·90	78	80		Calm.	r.
15	"	"	29·88	76	82	76	Sd. and Ed.	c.	29·90	80	83			Ed.	c.	29·90	82	84			Variable.	c.	29·90	80	84	79	Sd. and Ed.	c.
16	"	"	29·84	74	79		Ed.	r.	29·90	84	84	83		Sd. and Ed.	"	29·83	84	84	83		Nd. and Wd.	"	29·85	78	82	77	Variable.	r.
17	"	"	29·80	77	82	76	Calm.	"	29·85	83	84	82	100	N. N. W.	b.	29·90	87	87	85	90	Nd. and Wd.	b.	29·85	77	74	77	Sd.	"
18	"	"	29·88	76	80	76	Wd.	"		82	84	82	98	Nd. and Wd.	"	29·85	88	86	83	102	N. N. W.	"	29·95	80	86		Sd. and Ed.	c.
19	"	"	29·91	76	81	76	Nd.	"	29·95	82	84			Calm.	c.	29·92	84	84			Sd. and Ed.	"	29·99	79	83	79	Ed.	b.
20	"	"	29·93	82	82	76	Sd. and Ed.	b.	29·97	86	84	83		Variable.	b.		86	86	86	108	E. N. E.	"		78	84	77	Nd.	"
21	"	"	29·93	77	82	76	Sd.	"		85	84	84	100	Nd.	"	29·90	87	86	86	120	N.	"	29·90	80	84		Nd. and Ed.	c.
22	"	"		78	82	70	Calm.	"	29·83	86	85	84	100	Nd. and Ed.	"	29·80	88	87	87	130	N. N. W.	"	29·90				Sd. and Ed.	b.
23	"	"	29·83	78	83	77	Variable.	c.	29·90	80	84	79	100	Variable.	"	29·90					Sd. and Wd.	r.	29·90				Mod.	"
24	13° 45′ 45″ S.	171° 31′ 45″ W.	29·86	82	84	80	N. W. by W.	"	29·85	89	86	85	104	Baffling.	"	29·80					Light.	b.	29·90	81	86		Ed.	c.
25	13° 51′ 58″ S.			80	84	79	Calm.	"		85	86	83	120	Light.	"	29·90	90	88	88	115	Nd.	"					Nd.	b.
26	13° 44′ 00″ S.		29·87	79	84		W.	"	29·90	87	84	83	110	S.	"	29·80	87	87	84	110	E. S. E.	"	29·93	84	84		Nd. and Ed.	c.
27	13° 43′ 21″ S.		29·84				N. E.	b.	29·95	89	86	85	110	Nd. and Ed.	"	29·80	86	87	85	110	N. N. E.	"	29·80	85	86	84	Nd. and Ed.	b.
28	13° 40′ 41″ S.		29·84	76	84	79	W.	r.	29·85	87	84	83	120	E. by N.	"	29·80	87	88	86	100	Nd. and Wd.	"	29·85	84	83	81	E. N. E.	q.

IV.

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP PEACOCK.

MARCH, 1841.

Date.	POSITION AT NOON.		3 A.M.						9 A.M.							3 P.M.							9 P.M.					
			BAROMETER AND THERMOMETERS.						BAROMETER AND THERMOMETERS.							BAROMETER AND THERMOMETERS.							BAROMETER AND THERMOMETERS.					
	Latitude.	Longitude.	Barometer.	Air.	Water.	Mast-head.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Sun.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Sun.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Wind.	Weather.
1			29·93	83°	86°		N. W. ¼ N.	c.	29·80	84°	86°	82°	C.	Variable.	r.	29·80	77°	84°	77°		W. N. W.	q.	29·86	80°	85°	79°	N. W. by N.	c.
2	13° 19′ S. D. R.	170° 50′ W. D. R.	29·83	81	84	79°	N. W.	c.	29·80	77	84	78		N. by W.	r.	29·85	80	85	79		N. W.	c.	29·86	82	84	77	N. W. ½ N.	b.
3	13° 07′ 43″ S.	171° 42′ 30″ W.	29·84	83	84	81	N. W. by N.	r.	29·85	78	84	77		N. by W.	r.	29·80	83	84	83		N. W. by N.	b.	29·90				N. W.	r.
4	13° 19′ 14″ S.		29·82	75	83	77	N. N. W.	r.	29·90	80	83	79		N. N. W.	b.	29·80	89	87	84	120°	Nd.	"	29·90	84	84	83	N. E. by N.	b.
5	13° 23′ 17″ S.	172° 20′ 45″ W.		83	84	82	N. E.	b.	29·85	85	86	85	98°	Ed.	"	29·76							29·85				Ed.	"
6			29·77	80	84		Sd.	"	29·85	87	85	86	120	Variable.	"	29·80	88	86	87	110	E. N. E.	"	29·81	83	82	82	Nd.	"
7	13° 15′ 20″ S.	172° 20′ 30″ W.	29·80	80	84	79	Nd. and Wd.	"	29·85	90	86	86	110	Variable.	"	29·80	86	86	84	100	N. E. by N.	"	29·80	84	85	82	N. E.	"
8	12° 12′ 00″ S.	173° 03′ 00″ D. R.	29·81	83	84	81	N. N. E.	"	29·85	88	87	86	120	N. N. E.	"	29·80	87	87	85	C.	Variable.	"	29·88	84	84	82	S.	"
9	11° 18′ 00″ S.	173° 47′ 45″ W.	29·81	84	86	83	Ed.	"	29·82	84	85	84	112	N. N. E.	c.	29·80	84	86	83	130	S. E.	c.	29·80	84	85	82	E. N. E.	c.
10	10° 14′ 28″ S.	175° 11′ 15″ W.	29·75	80	84	81	N. N. E.	c.	29·80	83	84	81	100	N. E.	b.	29·75	84	85	83		N. E. by N.	b.	29·80	84	85	82	Ed.	c.
11	9° 32′ 00″ S.	177° 13′ 30″ W.		84	85	83	E. by S.	b.	29·77	85	85	84		E.	"	29·76	78	84	74		E.	r.	29·85	81	84	80	N. E. by N.	r.
12	9° 12′ 13″ S.	179° 14′ 30″ W.	29·84	80	84	78	Ed.	c.	29·80	84	85	81	100	E. ½ S.	"	29·75	84	86	81		E. by N.	b.	29·80	83	85	80	E. S. E.	b.
13	Passed into E.	Longitude.																										
14	8° 38′ 44″ S.	179° 21′ 45″ E.	29·80	84	85	83	E. S. E.	b.	29·87	83	85	81	C.	E. S. E.	q.	29·75	85	85	84	100	E. by S.	b.	29·80	85	84	84	E. by S.	q.
15	8° 34′ 00″ D. R.	178° 28′ 30″ E.	29·76	80	84	79	N. E. by N.	q.	29·77	81	84	81	C.	Variable.	c.	29·76	79	85	78		Nd. and Ed.	r.	29·86	80	84	78	Ed.	r.
16	8° 28′ 00″ S.	178° 41′ 00″ E.	29·85	82	83	81	Calm.	c.	29·85	78	84	78	C.	Variable.	c.	29·77	77	84	78		Nd. and Ed.	q.	29·86	79	84	78	Cloudy.	c.
17	8° 21′ 40″ S.	178° 46′ 45″ E.	29·83	80	84	80	Sd. and Ed.		29·87	80	84	78		S. E. by E.	b.	29·80	84	85	84		S. E. by E.	b.	29·85	82	84	82	E.	b.
18	7° 58′ 47″ S.	178° 29′ 15″ E.	29·84	84	84	82	Nd. and Ed.	b.	29·87	85	83	86	100	Ed.	b.	29·80	88	86	85	105	N. E. by N.	"	29·86	84	84	84	N. E.	"
19	7° 47′ 22″ S.	177° 57′ 15″ E.	29·85	80	84	81	S. E.	c.	29·90	83	84	83	100	Variable.	c.	29·80	86	87	84		N. N. E.	"	29·90	84	85	83	S. S. E.	"
20	7° 39′ 36″ S.	177° 53′ 15″ E.	29·90	82	84	81	Calm.	b.	29·85	85	86	85	98	Nd.	b.	29·77	86	86	86	C.	Nd. and Wd.	"	29·82	85	86	84	Variable.	"
21	7° 01′ 00″ D. R.	177° 48′ 00″ D. R.	29·80	81	84	80	Sd. and Wd.	c.	29·90	87	84	80		Variable.	c.	29·80	88	86	77		Wd.	r.	29·85	80	85	80	Nd. and Wd.	"
22	6° 47′ 00″ S.	177° 50′ 00″ E.	29·84	83	85	81	Nd.	b.	29·83	86	86	84	110	N. by W.	b.	29·78	85	85	84		N. N. W.	b.	29·82	85	86	82	N. by E.	"
23	6° 29′ 14″ S.	177° 15′ 00″ E.	29·83	81	83	80	Baffling.	q.	29·76	80	84	80		Variable.	c.	29·80	87	86	85	114	N. N. W.	"	29·85	81	86	79	Variable.	c.
24	6° 23′ 40″ S.	176° 11′ 30″ E.	29·83	84	86	83	N. by W.	b.	29·80	87	86	85	102	Nd. and Wd.	b.	29·80	86	86	86	100	Nd. and Wd.	"	29·80	82	85	82	Nd. and Ed.	r.
25	5° 46′ 22″ S.	175° 44′ 15″ E.	29·78	82	84	81	N. by E.	"	29·80	87	86	85	110	N. ¼ W.	"	29·76	88	86	85	99	N.	"	29·80	83	84	84	N. N. E.	b.
26	5° 13′ 46″ S.	174° 57′ 30″ E.	29·77	82	85	82	N. N. E.	"	29·75	84	86	85	100	N.	"	29·74	86	87	85	110	N. by E.	"	29·83	85	86	84	N. N. E.	"
27	4° 11′ 20″ S.	173° 46′ 00″ E.	29·75	83	84	83	N. N. E.	"	29·80	86	84	85	100	N. E. by N.	"	29·76	86	84	84	100	N. N. E.	"	29·85	82	83	82	N. by E. ¼ E.	"
28	4° 20′ 00″ S.	174° 46′ 00″ E.	29·85	84	84	83	N.	"	29·82	85	84	84		N. by E.	"	29·75	86	84	85	100	N. by W.	c.	29·81	85	86	83	N. W.	"
29	3° 52′ 00″ D. R.	175° 15′ 20″ D. R.	29·80	82	85	80	N. W. by N.	c.	29·80	78	84	80		Variable.	r.	29·75	79	85	78		Sd. and Wd.	r.	29·80	78	84	80	N. E. by E.	q.
30	2° 57′ 12″ S.	174° 38′ 15″ E.	29·76	81	85	81	N. E. ½ E.	"	29·77	85	86	84	99	N. N. E.	c.	29·72	84	85	84	C.	N. N. E.	b.	29·80	83	85	83	N. E.	c.
31	2° 21′ 33″ S.	174° 08′ 47″ E.	29·76	79	84	80	Nd. and Ed.	"	29·80	80	84	82		Nd. and Ed.	c.	29·73	84	85	83		N. E.	c.	29·81	82	84	82	N. E.	c.

V.

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP PEACOCK.

APRIL, 1841.

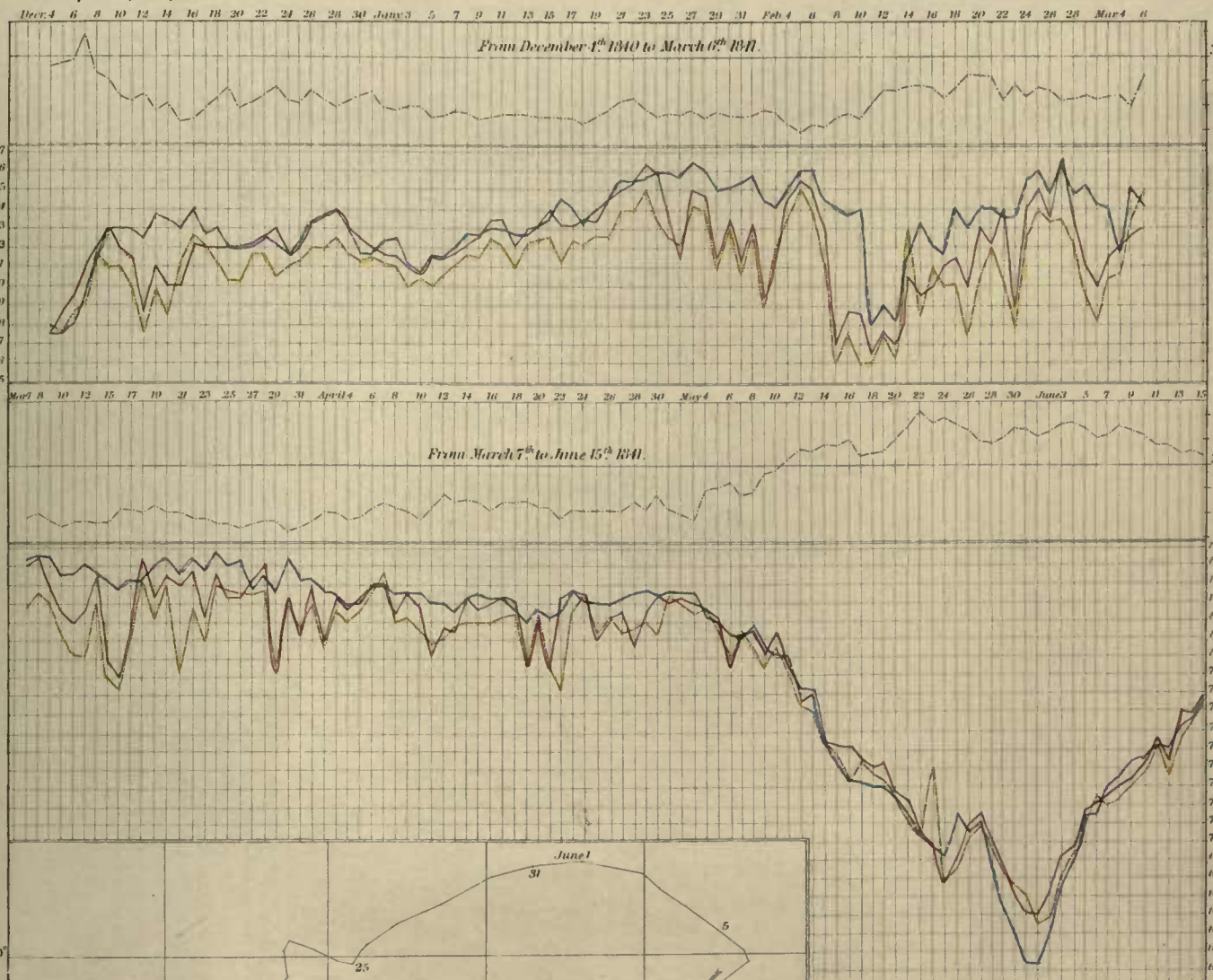
Date.	Position at Noon.		3 A.M.						9 A.M.							3 P.M.							9 P.M.					
			Barometer and Thermometers.						Barometer and Thermometers.							Barometer and Thermometers.							Barometer and Thermometers.					
	Latitude.	Longitude.	Barometer.	Air.	Water.	Mast-head.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Sun.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Sun.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Wind.	Weather.
1	3° 13′ 44″ S.	174° 49′ 45″ E.	29·86	83°	84°	83°	N. N. E.	c.	29·80	86°	84°	84°	100°	N. E.	c.	29·74	82°	84°	82°	C.	N. N. E.	c.	29·81	84°	85°	83°	N. E.	c.
2	3° 01′ 40″ S.	175° 07′ 45″ E.	29·82	80	84	79	Variable.	"	29·87	80	84	80		N. E. by E.	b.	29·77	82	84	81		E. N. E.	b.	29·83	82	83	82	E. by N.	b.
3	1° 07′ 45″ S.	174° 43′ 45″ E.	29·80	82	82	82	N. E. ½ E.	b.	29·87	85	84	83	99	N. E.	"	29·74	84	83	83	98°	N. E. ½ E.	"	29·90	83	84	83	N. E. ½ N.	"
4	1° 22′ 20″ S.	174° 39′ 15″ E.	29·80	81	82	81	N. E. ½ E.	"	29·83	83	83	82	100	N. E. by E. ½ E.	"	29·77	85	84	83	108	N. E. by N.	"	29·85	82	83	82	N. E. ½ E.	"
5	1° 08′ 50″ S.	174° 43′ 45″ E.	29·82	82	83	82	N. E.	"	29·85	85	83	83	100	N. E. by E.	"	29·80	84	83	83	102	N. E. by N.	"	29·80	82	83	82	Nd. and Ed.	"
6	Drummond's	Island.	29·84	81	83		N.	"	29·86	86	84	83	108	N. N. W.	"	29·80	85	85	84	C.	Calm.	"	29·90				Nd.	r.
7	1° 13′ 38″ S.	174° 51′ 34″ E.	29·85	80	84		Calm.	"	29·93	85	84	83	110	E. S. E.	"	29·82	88	84	88	132	E. S. E.	"	29·90	83	84	83	E. S. E.	b.
8	"	"		83	83	82	N. by E.	c.	29·92	82	84	82		Nd. and Ed.	"	29·80					E. by N.	"	29·85				Ed.	"
9	"	"	29·82	82	82	81	E. N. E.	b.	29·85	84	83	83	90	Nd. and Ed.	"	29·80	85	84	83	126		"	29·86	83	84	82	Light.	"
10	29′ 05″ S.	174° 25′ 45″ E.	29·83	81	83	81	E. N. E.	"	29·82	84	83	83	100	N. E. by E.	"	29·76	84	84	83	C.	E. by N.	"	29·82	82	84	80	"	r.
11	02′ 00″ S.	174° 14′ 00″ E.	29·80	80	83	80	E. N. E.	r.	29·91	79	83	79	C.	Calm.	"	29·80	84	83	83	98	S. S. E.	c.	29·86	81	83	81	Sd. and Ed.	b.
12	06′ 09″ N.	173° 46′ 00″ E.	29·90	81	82	80	S. by E.	b.	29·92	80	83	80	C.	E.	"	29·85	84	84	83	C.	E. by S.	b.	29·90	82	83	81	N.	"
13	°1 44′ 00″ N.	173° 16′ 45″ E.	29·90	81	82	81	N. E. by E.	"	29·90	80	82	81	C.	Nd. and Ed.	"	29·85	83	84	83	C.	Nd. and Ed.	"	29·82	82	82	82	N. E.	"
14	57′ 35″ N.	173° 08′ 30″ E.	29·87	81	82	80	N. E. ½ N.	"	29·90	80	83	84	100	N.	"	29·84	86	85	85	120	N. E.	"	29·90	80	83	79	N. by E. ½ E.	c.
15	32′ 37″ N.	174° 05′ 15″ E.	29·90	81	82	80	N. by E.	"	29·92	83	84	83	107	N. E. ½ N.	"	29·80	85	84	84	C.	N. N. E.	q.	29·85	82	84	81	N. N. E.	b.
16	17′ 37″ N.	173° 35′ 30″ E.	29·81	82	84	80	N. E.	"	29·82	84	83	84	119	N. E.	c.	29·80	84	83	83	100	N. E.	b.	29·89	82	83	81	N. N. E.	"
17	1° 14′ 23″ N.	173° 16′ 00″ E.	29·83	82	83	82	N. E. by E.	o.	29·92	84	84	83	98	N. E. by E.	b.	29·81	84	83	82	100	N. E. by E.	"	29·95	83	83	82	E. N. E.	"
18	1° 24′ 10″ N.	173° 25′ 45″ E.	29·88	82	82	80	E. N. E.	b.	29·90	83	83	84	99	E. N. E.	"	29·83	84	83	83	100	E. N. E.	"	29·90	83	83	83	Nd. and Ed.	"
19	1° 29′ 45″ N.	173° 05′ 00″ E.	29·88	80	80	80	N. E. by E.	"	29·84	80	83	79	C.	E. N. E.	"	29·83	81	83	80	C.	Sd. and Ed.	r.	29·90	78	82	80	Nd. and Ed.	c.
20	1° 41′ 00″ N.	172° 51′ 30″ E.	29·85	80	82	81	E. N. E.	c.	29·89	84	83	84		E. N. E.	c.	29·80	84	84	83	96	N. E. ½ E.	b.	29·85	81	82	82	N. E. by E.	"
21	2° 13′ 32″ N.	172° 57′ 00″ E.	29·84	80	83	79	Nd. and Ed.	r.	29·86	78	83	78		E. N. E.	"	29·80	80	82	80		Nd. and Ed.	c.	29·85	80	81	81	N. E.	b.
22	2° 15′ 30″ N.	172° 47′ 30″ E.	29·72	83	82	80	N. E. by E. ½ E.	b.	29·85	84	83	83	100	E.	b.	29·79	84	83	83	100	N. E. by E.	b.	29·87	82	83	82	N. E. ½ E.	"
23	1° 56′ 00″ N.	173° 07′ 45″ E.	29·86	82	83	81	N. E. by N.	"	29·85	85	84	83	96	N. E.	"	29·79	85	84	84	99	N. E. by E.	"	29·85	83	84	82	Nd. and Ed.	"
24	1° 46′ 00″ N.	173° 10′ 30″ E.	29·85	82	82	84	N. E. by E. ½ E.	"	29·86	84	83	84	C.	N. E. by E.	"	29·83	85	85	84	100	N. N. E.	"	29·83	83	83	82	N. E. ½ E.	"
25	1° 54′ 00″ N.	173° 07′ 00″ E.	29·83	82	83	81	N. E. by N.	"	29·80	85	84	84		N. E. by N.	"	29·80	79	82	82		N. E.	c.	29·86	78	83	78	N. E. by N.	r.
26	2° 06′ 35″ N.	173° 03′ 30″ E.	29·82	80	82	79	N. E. ½ N.	c.	29·85	82	83	82	90	N. E.	"	29·80	85	84	85	C.	N. E. ½ N.	b.	29·87	82	83	83	E. N. E.	c.
27	1° 53′ 12″ N.	173° 37′ 45″ E.	29·82	82	83	82	N. E. by N. ½ N.	b.	29·86	81	83	80	C.	N. E.	"	29·81	83	83	82	C.	E. N. E.	c.	29·90	84	84	82	N. E. by E.	b.
28	3° 16′ 04″ N.	173° 00′ 30″ E.	29·88	77	82	79	E. N. E.	r.	29·90	84	84	84	C.	E. by N.	"	29·80	81	84	82	C.	E. by N.	r.	29·90	81	84	82	E. by N.	r.
29	3° 03′ 30″ N.	173° 01′ 45″ E.	29·90	79	83	79	E. N. E.	"	29·80	85	84	83	C.	N. E. by E.	"	29·80	84	84	84	90	N. E. by E.	b.	29·84	82	84	82	E. N. E.	b.
30	3° 39′ 00″ N.	172° 42′ 00″ E.	29·95	81	82	79	E. N. E.	b.	29·95	85	84	84	100	N. E.	"	29·82					Calm.	"	29·90	84	84	81	N. N. E.	"

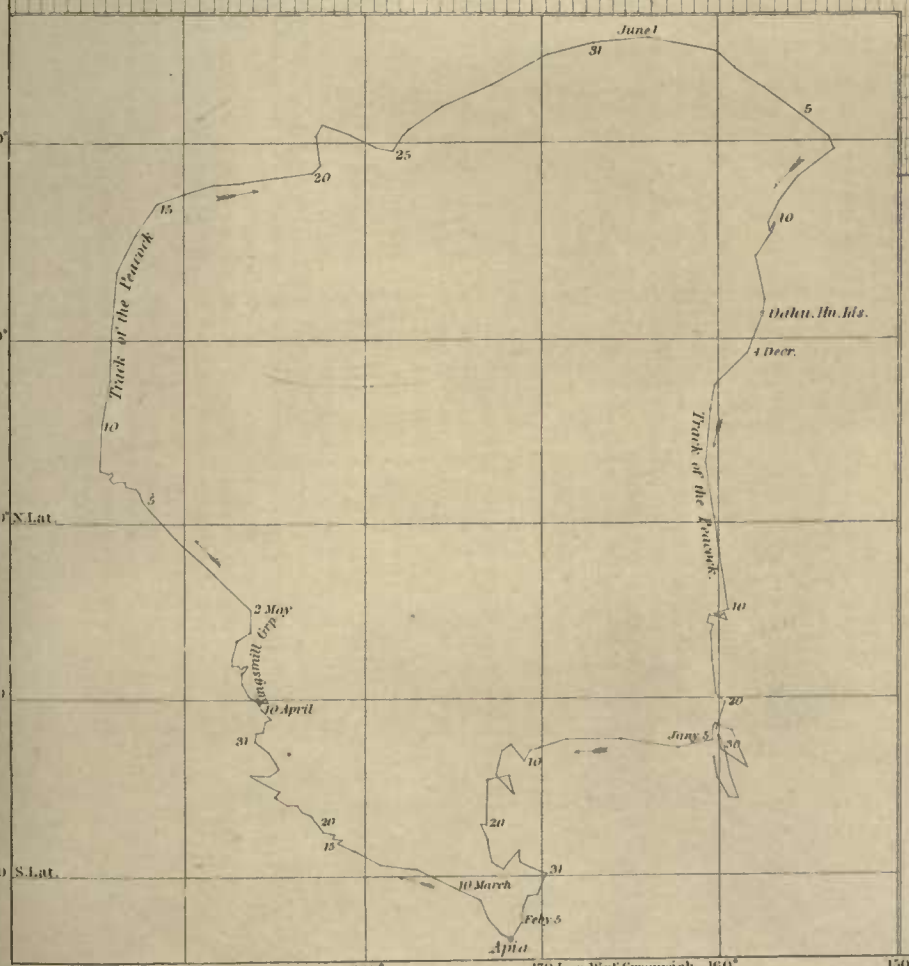
VI.

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP PEACOCK.

MAY, 1841.

Date.	Position at Noon.		3 A.M.						9 A.M.						3 P.M.						9 P.M.					
			Barometer and Thermometers.						Barometer and Thermometers.						Barometer and Thermometers.						Barometer and Thermometers.					
	Latitude.	Longitude.	Barometer.	Air.	Water.	Mast-head.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Sun.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Sun.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Wind.	Weather.
1	03° 19′ 00″ N.	173° 28′ 45″ E.	29·86	82°	84°		N. E. by N.	b.	29·90	84°	83°	84°	90°	N. N. E.	b.	29·80	83°	83°	84°		N. E.	c.	29·82	83°	84°	82°	N. E. ¼ N.	b.
2	05° 11′ 20″ N.	173° 08′ 30″ E.	29·82	82	82		Nd. and Ed.	"	29·84	84	84	84	98	E. N. E.	"	29·82	84	84	83	98°	N. E. by E.	b.	29·82	83	84	82	N. E. by N.	"
3	07° 12′ 00″ N.	171° 34′ 45″ E.		82	84	81°	E. N. E.	"	29·85	84	84	83	94	N. E. by E.	"	29·85	84	82	84	93	E. by N.	"	29·81	82	84	82	N. E.	"
4	09° 15′ 10″ N.	169° 22′ 00″ E.	29·90	82	82	82	N. E.	"	29·92	84	83	84	98	N. E.	"	29·94	83	82	83	90	N. E. by N.	"	29·94	82	82	82	N. E. ½ E.	c.
5	11° 19′ 32″ N.	167° 37′ 30″ E.	29·99	81	82	81	N. E.	"	30·00	84	82	82	80	N. E. by E.	m.	29·85	83	82	82	88	E. N. E.	o.	29·90	81	82	81	E. N. E.	r.
6	11° 37′ 00″ N.	167° 38′ 15″ E.	30·00	76	80	78	E.	c.	29·96	80	82	81	80	N. E. by E.	c.	29·85	82	82	81		N. E. by E.	c.	30·00	80	81	80	N. E. by E.	c.
7	11° 31′ 00″ N.	167° 25′ 30″ E.		80	80	80	N. E. by E.	"	29·94	82	81	82		N. E. by E.	b.	29·85	82	81	82		E. N. E.	"	29·90	81	82	82	N. E. by E.	b.
8	11° 02′ 17″ N.	166° 40′ 00″ E.	29·94	80	81	80	N. E. ½ E.	b.	29·82	83	82	82	C.	E. N. E.	c.	29·95	83	82	82	C.	E. N. E.	b.	29·95	80	82	79	N. E.	"
9	12° 55′ 00″ N.	166° 18′ 15″ E.	29·98	80	81	81	N. E. ½ E.	"	30·02	84	81	80	98	N. E. by E.	b.	29·93	79	80	80	C.	E. N. E.	m.	30·01	78	80	78	E. ½ N.	c.
10	15° 23′ 34″ N.	165° 43′ 00″ E.						"	30·01	82	80	81	90	N. E. by E.	"	29·98	82	80	81	C.	N. E. by E. ½ E.	b.	30·03	80	80	80	E. by N. ½ N.	b.
11	17° 56′ 35″ N.	165° 43′ 00″ E.	30·01	79	80	80	E. by N. ½ N.	"	30·02	80	80	80	96	N. E. by E. ½ E.	"	30·07	81	80	80	96	E. by N.	"	30·05	79	80	78	E.	c.
12	20° 44′ 30″ N.	165° 54′ 30″ E.	30·05	78	80	78	E. ½ N.	"	30·07	80	76	78	89	N. E. by E.	"	30·05	79	77	78		E. N. E.	"	30·11	76	78	76	E.	"
13	23° 23′ 00″ N.	166° 03′ 45″ E.	30·06	77	78	76	E. ½ N.	"	30·10	79	78	78	100	E. N. E.	"	30·02	80	78	78	90	E. by N.	"	30·10	77	78	77	E. ½ N.	"
14	25° 16′ 00″ N.	167° 19′ 00″ E.	30·10	74	74	76	E. by S.	"	30·01	78	78	76	89	E. by S.	"	30·12	77	75	76	102	E.	"	30·12	74	74	74	E. by S.	b.
15	26° 42′ 47″ N.	168° 41′ 00″ E.	30·12	74	74	75	E. by S. ½ S.	"	30·02	77	74	74	90	E. S. E.	"	30·10	76	74	74	96	S. E.	"	30·11	75	75	76	S. E.	"
16	27° 15′ 45″ N.	170° 00′ 45″ E.	30·15	74	73	73	S. E. by S.	"	30·12	75	72	73	86	S. E.	"	30·05	78	74	74		S. S. E.	"	30·10	74	74	73	S. S. E.	c.
17	27° 47′ 00″ N.	171° 42′ 00″ E.	30·06	74	73	74	S. by E.	"	30·05	74	73	74	C.	S.	"	30·00	75	74	75	104	S. by W.	c.	30·03	75	73	74	S. W. by W.	b.
18	27° 49′ 00″ N.	173° 17′ 45″ E.	30·04	73	73	72	S. S. W.	c.	30·01	74	73	74	99	S. W.	"	30·04	75	73	75	100	S. W. by W.	b.	30·06	74	73	74	S. W. by W.	"
19	28° 04′ 30″ N.	175° 20′ 00″ E.	30·03	73	73	72	S.	b.	30·06	74	72	73	90	S. by E.	"	30·06	76	74	74	104	S. S. W.	"	30·07	74	73	74	S. S. E.	"
20	28° 12′ 16″ N.	177° 05′ 30″ E.	30·07	70	72	70	W. S. W.	c.	30·10	74	73	74	84	Variable.	"	30·10	74	73	74	C.	S. E.	"	30·12	73	72	72	Variable.	c.
21	28° 54′ 17″ N.	177° 34′ 00″ E.	30·10	72	72	71	E. ½ N.	b.	30·13	75	72	73	92	N. E. by E. ½ E.	"	30·17	72	71	70	87	Nd. and Ed.	"	30·20	70	71	70	N. E. ½ E.	"
22	30° 17′ 20″ N.	177° 28′ 45″ E.	30·20	69	70	70	Variable.	c.	30·20	72	70	72	87	E.	"	30·20	73	71	70	C.	N. E. by E.	"	30·20	69	70	69	E. by N. ½ N.	"
23	30° 47′ 30″ N.	177° 57′ 00″ E.	30·17	69	70	69	E. S. E.	"	30·18	69	70	68		Variable.	f.	30·12	72	70	70	90	Nd. and Ed.	"	30·13	69	69	89	W. to N.	"
24	30° 24′ 30″ N.	179° 08′ 00″ E.	30·14	67	68	67	N. by W.	"	30·17	67	68	67	80	Variable.	f.	30·15	70	71	70	90	N. W. by N.	"	30·20	67	70	67	N. by E.	"
25	29° 55′ 00″ N.	179° 28′ 45″ W.	30·19	65	70	64	N. by E.	"	30·20	68	70	67		N. E. by N.	c.	30·16	68	71	68	C.	N. E. by N.	"	30·19	68	72	67	N. E.	b.
25	29° 28′ 14″ N.	178° 28′ 45″ W.	30·17	68	71	68	Nd. and Ed.	"	30·15	69	72	68	80	N. E. ½ E.	b.	30·13	71	72	70	102	N. E. ½ E.	"	30·13	69	71	68	N. E.	"
26	29° 15′ 40″ N.	177° 59′ 00″ W.	30·13	68	71	68	E. by N. ¾ N.	b.	30·13	73	70	71	104	Calm.	o.	30·12	73	71	72	98	N. E.	"	30·13	70	71	70	S. and E.	o.
27	30° 36′ 00″ N.	177° 26′ 00″ W.	30·14	69	70	70	E. S. E.	"	30·11	73	70	71	99	S. E. by E.	b.	30·05	73	72	72		S. E. by E. ½ E.	"	30·06	71	72	71	E. S. E. ½ E.	b.
28	31° 36′ 40″ N.	175° 43′ 15″ W.	30·05	70	70	70	S. E. by E.	"	30·05	69	68	70	C.	S. E. ½ E.	m.	30·12	71	68	70	80	S. E. by E.	c.	30·10	70	69	69	S. E. ½ E.	m.
29	32° 40′ 20″ N.	172° 58′ 45″ W.	30·06	68	67	68	S. E. ¾ S.	c.	30·11	69	66	69	98	S. E. ½ E.	b.	30·10	70	66	69		S. E. by E. ½ E.	"	30·10	68	66	68	S. E. by E.	"
30	34° 10′ 00″ N.	169° 53′ 00″ W.	30·09	68	67	68	S. E. ½ E.	"	30·15	67	64	69		S. E. by E.	m.	30·12	67	64	68		S. E.	m.	30·15	66	65	66	S. E. ½ S.	c.
31	34° 47′ 15″ N.	167° 00′ 30″ W.	30·12	65	64	68	S. E. by S.	m.	30·15	66	63	66	C.	S. S. E.	"	30·06	67	63	69	C.	S. E.	c.	30·15	66	63	65	S. E. by S. ½ S.	"





Track of the

Peacock

Shewing the

Oscillations of the Barometer

and

Temperatures of air and water

for every day during

her cruise to the

Samoan and Kingsmill Groups

in

1840. 41.

Explanations.

- Track
- Air
- Mast head
- Water
- Barometer

UNIV. OF
CALIFORNIA

VII.

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP PEACOCK.

JUNE, 1841.

Date.	POSITION AT NOON.		3 A.M.						9 A.M.							3 P.M.							9 P.M.					
			BAROMETER AND THERMOMETERS.						BAROMETER AND THERMOMETERS.							BAROMETER AND THERMOMETERS.							BAROMETER AND THERMOMETERS.					
	Latitude.	Longitude.	Barometer.	Air.	Water.	Mast-head.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Sun.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Sun.	Wind.	Weather.	Barometer.	Air.	Water.	Mast-head.	Wind.	Weather.
1	34° 59′ 15″ N.	163° 46′ 00″ W.	30·08	65°	62°	64°	S. E. by S.	m.	30·11	65°	63°	66°	C.	S. E. by S. ½ S.	b.	30·06	67°	64°	66°	C.	S. by E. ½ E.	m.	30·13	67°	64°	66°	S. ½ E.	b.
2	34° 20′ 00″ N.	161° 04′ 30″ W.	30·13	66	65	66	S. to S. S. W.	c.	30·14	67	65	67		S.	"	30·01	72	60	72		S. by E.	b.	30·17	64	64	64	S.	"
3	33° 30′ 20″ N.	159° 01′ 00″ W.	30·15	67	65	67	S. by W.	b.	30·14	68	66	67	84°	S. by W.	"	30·13	72	70	71	98°	S. by W.	"	30·16	70	69	69	S. by W.	"
4	32° 32′ 50″ N.	157° 23′ 00″ W.	30·14	68	68	66	S. by W.	"	30·16	69	69	70	74	S. ½ W.	"	30·15	72	69	72	95	S. by E. to S.	"	30·12	70	70	70	S. S. W.	"
5	31° 19′ 42″ N.	155° 32′ 00″ W.	30·13	70	71	69	S. by W.	"	30·13	71	71	71	90	S. by W. ½ W.	"	30·13	74	72	72	90	S. S. W.	"	30·14	72	72	72	S. W. by S.	"
6	30° 17′ 00″ N.	153° 58′ 15″ W.	30·12	70	70	70	S. S. W.	"	30·10	71	71	72	78	S. S. W.	"	30·08	75	73	76	C.	S. ½ W.	c.	30·11	72	72	73	S. ½ W.	"
7	29° 25′ 20″ N.	153° 44′ 30″ W.	30·12	71	72	70	Variable.	"	30·11	74	72	73	C.	S. S. E.	"	30·10	73	74	74	86	S. by E.	b.	30·11	72	74	71	S. S. E.	"
8	28° 18′ 50″ N.	155° 40′ 00″ W.	30·16	68	73	68	S. S. E.	r.	30·15	76	74	74	88	S. E. by E.	"	30·10	74	73	74		S. E. ½ S.	"	30·20	74	74	73	Variable.	"
9	26° 57′ 60″ N.	156° 52′ 15″ W.	30·09	73	74	71	E. S. E.	b.	30·20			76	C.	Variable.	c.	30·10	73	74	72	C.	E. N. E.	r.	30·16	74	75	73	Variable.	c.
10	25° 58′ 17″ N.	157° 17′ 00″ W.	30·13	73	74	72	E. by N.	c.	30·13	76	74	74	83	E. S. E.	"	30·11	74	75	75	C.	Variable.	b.	30·10	74	75	74	S. E. by E.	b.
11	25° 38′ 40″ N.	157° 16′ 00″ W.	30·09	74	74	74	S. E. by E. ½ E.	"	30·10	74	75	75		S. E. ½ S.	b.	30·05	80	76	70	91	S. E. by S.	"	30·07	75	76	73	S. E.	c.
12	25° 40′ 50″ N.	157° 09′ 15″ W.	30·07	72	74	70	Calm.	b.	30·10					Variable.	"	30·03	75	75	76	84	S. E. ½ E.	"	30·10	76	76	75	E. ½ S.	"
13	24° 06′ 00″ N.	158° 14′ 30″ W.	30·06	74	75	74	S. E. by E.	"	30·05	82	76	77	92	E. S. E.	"	30·07	78	77	76	85	Variable.	c.	30·05	75	77	76	E. by N.	"
14	21° 51′ 20″ N.	157° 53′ 00″ W.	30·07	74	76	74	Variable.	c.	30·10	77	76	76	94	E. ½ N.	"	30·02	81	79	80		N. E.	b.	30·07	76	76	77	N. E. by E.	b.
15	21° 13′ 40″ N.		30·06	75	77	76	N. E. by E. ½ E.	b.	30·02	79	78	77	92	N. E.	"	30·00	80	78	80	92	E. N. E.	"	30·14	77	78	76	N. E.	"
16	Anchor at Honolulu.		30·07	76	78		N. E. by N.	"	30·04	82	79	81	104	N. E.	"		85	78	82	103	N. E. by E.	"	30·05	76	78	76	N. E. by E.	r.
17	"	"					Calm.	"	30·06	80	78	79	99	Nd. and Ed.	"	30·04	80	79	80	C.	Nd. and Ed.	"					Variable.	"
18	"	"	30·06	74	78	73	Rain.	o.	30·05	78	79	77		Nd. and Ed.	"	30·06	83	80	81	100	Nd. and Ed.	"	30·12	78	78	77	Calm.	c.
19	"	"	30·10	75	78	75	Light.	b.	30·10	80	80	79	90	Nd. and Ed.	"	30·11	83	79	82	100	N. E. by N.	"	30·10	77	78	77	Nd. and Ed.	"
20	"	"	30·10	75	78	74	Nd. and Ed.	r.	30·10	78	78	77	94	E. N. E.	"	30·10	82	78	81	92	Nd. and Ed.	"	30·12	76	78	75	Nd. and Ed.	b.
21	"	"	30·10				N. E.	b.	30·11	78	77	77		Nd. and Ed.	"	30·05	78	78	78	100	Nd. and Ed.	"	30·12	75	78	74	Nd. and Ed.	"
22	23° 18′ 18″ N.	158° 54′ 00″ W.	30·16	75	76	76	E. N. E.	"	30·15	77	76	76	88	Variable.	q.	30·18	75	76	75		N. E. by N.	q.	30·26	74	77	73	E. N. E. ½ E.	r.
23	24° 46′ 00″ N.	158° 58′ 45″ W.	30·25	73	77	74	E. N. E.	r.	30·23	78	78	76	C.	Variable.	b.	30·20	77	77	76	100	E. ½ N.	c.	30·22	75	77	75	N. E. by E. ½ E.	b.
24	26° 54′ 00″ N.	159° 24′ 00″ W.	30·26	74	76	75	Variable.	c.	30·26	75	75	75	89	N. E. by E.	"	30·20	77	75	76		N. E.	b.	30·22	75	75	74	E. N. E.	"
25	28° 59′ 20″ N.	159° 29′ 15″ W.	30·17	72	75	73	E. by N. ½ N.	b.	30·16	77	75	74	88	E. N. E.	"	30·14	74	76	74	90	N. E. by E.	"	30·15	74	76	74	E. N. E.	"
26	30° 28′ 21″ N.	158° 37′ 30″ W.	30·16	73	73	72	E. by S.	"	30·20	74	74	73	C.	S. S. E.	r.	30·20	75	75	78	C.	E.	"	30·20	74	74	73	E. ½ S.	"
27	31° 26′ 00″ N.	157° 38′ 45″ W.	30·18	72	73	73	E. by S. ½ S.	"	30·20	74	73	74	100	E. ½ S.	b.	30·20	80	76	74	98	E.	"	30·21	74	74	73	N. E. ½ E.	"
28	32° 32′ 44″ N.	157° 39′ 00″ W.		72	73	72	E. N. E.	"	30·20	75	74	74	100	N. E. ½ N.	"	30·23	74	73	73		N. E. by N.	c.	30·31	71	73	70	N. E.	f.
29	33° 59′ 28″ N.	158° 23′ 30″ W.	30·30	68	72	67	N. E. ½ N.	c.	30·32	67	68	67	C.	N. E.	m.	30·32	67	67	65		N. E.	f.	30·42	64	66	62	N. E. by E ½ E.	m.
30	36° 22′ 20″ N.	158° 43′ 00″ W.	30·37	60	64	60	E. N. E. ½ E.	f.	30·40	64	62	63		E. ½ N.	c.	30·40	64	62	62		E. by N. ½ N.	b.	30·41	60	60	59	E. ½ N.	c.

VIII.

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. BRIG PORPOISE.

NOVEMBER, 1840.

Date.	POSITION AT NOON.		3 A.M.							9 A.M.							3 P.M.							9 P.M.						
			SYMP., THERMOM., AND HYGROM.							SYMP., THERMOM., AND HYGROM.							SYMP., THERMOM., AND HYGROM.							SYMP., THERMOM., AND HYGROM.						
	Latitude.	Longitude.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.
16	Sailed from	Oahu.																												
17	17° 15′ 00″ N.	157° 00′ 29″ W.		77°	76°	76°		East.	c.		78°	78°	75°		N. E.	c.	29·60	78°	78°	74°	78·68	E. by N.	c.	29·72	75°	78°	74°	78·74	E. by N.	b.
18	17° 15′ 00″ N.	157° 00′ 29″ W.	29·60	78	78	76		E. N. E.	"	29·70	78	78	78	77·72	E. N. E.	r.	29·57	76	77	78		N. E. by E.	r.	29·66	76	77	78	76·74	E. N. E.	c.
19	15° 22′ 45″ N.	156° 23′ 50″ W.	29·51	77	78	76		N. E. by E.	"	29·63	78	78	77	78·70	E. N. E.	c.	29·53	78	78	78	78·70	N. N. E.	c.	29·60	78	78	78	78·74	E. by N.	"
20	13° 11′ 14″ N.	155° 27′ 00″ W.	29·50	79	80	78		E. N. E.	"	29·58	79	80	78	80·70	E. by N.	"	29·47	80	81	79	80·70	East.	b.	29·52	80	80	78	79·73	E. N. E.	"
21	11° 16′ 19″ N.	154° 57′ 00″ W.	29·42	77	80	78		E. N. E.	p.	29·54	80	81	78	80·76	E. by N. ¼ N.	q.	29·44	76	80	78		N. E.	q. r.	29·50	76	80	79		E. by N.	q. r.
22	9° 13′ 20″ N.	154° 46′ 35″ W.	29·40	78	78	79		East.	b.	29·48	79	81	79	79·72	East.	b.	29·33	81	81	79	81·70	East.	b.	29·46	80	82	80	80·72	E. N. E.	u.
23	7° 37′ 04″ N.	154° 50′ 44″ W.	29·30	78	81	78		E. S. E.	"	29·44	81	82	78		East.	p.	29·36	77	83	77		East.	q.	29·44	77	82	76		East.	q. r.
24	7° 02′ 34″ N.	154° 38′ 00″ W.	29·36	78	82	78		E. N. E.	p.	29·46	79	83	79			q. r.	29·32	76	82	79		S. E. by E.	r.	29·48	79	83	79		E. S. E.	r.
25	6° 30′ 00″ N.	153° 44′ 00″ W.	29·32	82	82	79		East.	b.	29·50	78	82	79	78·68		o.	29·34	82	84	82	82·70		o.	29·42	76	83	80	81·74		o.
26	6° 22′ 09″ N.	152° 38′ 25″ W.	29·40	78	82	82			o.	29·48	82	82	84		S. E. by E.	b.	29·38	82	83	87		S. S. E.	b.	29·40	81	83	83	79·72	S. E. by S.	b.
27	5° 59′ 00″ N.	149° 50′ 00″ W.	29·36	78	82	78		S. E. by S.	c.	29·46	78	82	78	78·66	S. by E.	r.		76	82	72		N. E.	r.	29·47	79	82	76		E. by S. ½ S.	r.
28	6° 11′ 03″ N.	150° 57′ 13″ W.	29·40	78	82	78		S. S. E.	"	29·48	78	82	78		S. by W.	c.	29·38	81	82	77		N. E.	r.	29·40	76	81	76	79·72	S. S. E.	q. r.
29	6° 09′ 49″ N.	148° 24′ 00″ W.	29·44	76	81	78		S. E. by S.	r.	29·45	82	83	78	82·74	S. E.	"	29·33	85	83	82	85·68	S. E. by S.	b.	29·43	81	82	79	81·70		o.
30	6° 01′ 49″ N.	147° 50′ 00″ W.	29·40			74		North.	c.	29·50	77	83	72		E. by S. ½ S.	r.	29·40	78	82	78		E. S. E.	r.	29·44	78	82	78	78·72	S. E. by E. ½ S.	q.

IX.

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. BRIG PORPOISE.

DECEMBER, 1840.

Date.	POSITION AT NOON.		3 A.M.							9 A.M.							3 P.M.							9 P.M.						
			SYMP., THERMOM., AND HYGROM.							SYMP., THERMOM., AND HYGROM.							SYMP., THERMOM., AND HYGROM.							SYMP., THERMOM., AND HYGROM.						
	Latitude.	Longitude.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.
1	4° 25′ 07″ N.	148° 18′ 40″ W.	29·40	80°	82°	77°		S. E. by E.	c.	29·50	82°	82°	79°	83·72	E. S. E.	b.	29·35	83°	82°	80°	82·68	E. by S.	b.	29·43	79°	84°	74°		S. by E.	b.
2	2° 05′ 24″ N.	148° 59′ 00″ W.	29·42	79	80	76		S. E. by E.	b.	29·50	79	80	78	79·66	E. by S.	"	29·36	79	80	74	79·70	E. by S. ½ S.	"	29·46	80	78	76	80·72	E. S. E.	"
3	0° 10′ 59″ N.	149° 36′ 00″ W.	29·42	77	78	76		E. by S.	"	29·54	81	78	78	81·70	E. by S.	"	29·42	79	78	74	79·64	E. by S.	"	29·55	76	78	76	76·68	E. by N.	"
4	2° 10′ 27″ S.	149° 07′ 55″ W.	29·42	78	78	79		E. by N.	"	29·52	80	80	80	80·68	E. by N.	"	29·40	78	81	78	78·66	E. by N.	"	29·50	78	80	78	78·68	East.	"
5	4° 03′ 26″ S.	148° 49′ 40″ W.	29·46	78	80	83		E. by S. ½ S.	"	29·54	82	81	83	82·68	E. ½ S.	"	29·44	81	83	78	81·64	E. by S.	"	29·54	81	83	82	81·70	E. S. E.	"
6	5° 38′ 30″ S.	148° 22′ 40″ W.	29·46	79	82	79		E. N. E.	"	29·48	80	82	82	80·66	N. E. by E.	"	29·40	82	82	77	80·68	N. E. by N.	"	29·56	79	82	78	79·68	N. E. by N.	"
7	7° 12′ 34″ S.	147° 04′ 00″ W.	29·42	80	80	74		N. E. by N.	"	29·50	80	81·5	78	80·72	N. E. by N.	"	29·40	82	82	79	82·68	N. N. E.	"	29·46	82	82	80		N. W.	"
8	8° 50′ 14″ S.	145° 21′ 00″ W.	29·46	79	82	82		North.	o.	29·48	82	82	80	82·70	N. E. by N.	"	29·40	84	83	78	84·68	N. N. E.	"	29·58	80	82	74		East.	r.
9	11° 04′ 00″ S.	144° 20′ 30″ W.	29·32	78	82	78		N. N. W.	r.	29·50	81	82	79		N. W.	r.	29·44	76	82	79		North.	q.	29·54	76	82	80		West.	"
10	12° 54′ 11″ S.	144° 55′ 49″ W.	29·42	78	82	78		W. by S.	t. q.	29·54	79	83	79	79·68	N. E. by N.	o.	29·42	84	84	78	84·70	W. by N.	"	29·54	81	82	79	81·70	N. N. E.	q.
11	14° 16′ 19″ S.	145° 54′ 05″ W.	29·48	78	81	77		N. E. by E.	q. r.	29·54	78	82	81		E. N. E.	c.	29·50	78	82	79		N. by E.	r. q.	29·52	81	83	78		East.	r. q.
12	14° 25′ 12″ S.	146° 30′ 00″ W.	29·44	80	82	79		E. by N.	q.	29·52	80	82	79		N. E. by E.	r. q.	29·45	82	82	80	82·73	East.	r.	29·50	77	82	78		N. E. by E.	"
13	15° 09′ 16″ S.	146° 18′ 29″ W.	29·42	80	82	78		East.	r.	29·50	80	82	70		E. by N.	m.	29·42	85	82	79	85·72	N. E. by N.	c.	29·50	80	80	78		E. by N.	c.
14	15° 59′ 15″ S.	145° 45′ 37″ W.	29·46	78	81	77		N. E.	"	29·44	82	82	84	82·74	E. by N.	b.	29·40	86	82	79	86·68	E. N. E.	b.	29·48	82	82	80	82·72	E. N. E.	q.
15	15° 27′ 30″ S.	145° 49′ 12″ W.	29·46	80	82	77		E. by N. ½ N.	c.	29·50	82	82	81	82·74	E. N. E.	q. r.	29·44	78	82	79		E. N. E.	q. r.	29·50	80	82	79		E. N. E.	t. r.
16	15° 30′ 00″ S.	145° 37′ 00″ W.	29·44	80	82	78		East.	t. c.	29·50	84	82	74	84·70	E. N. E.	"	29·44	85	82	87	85·72	N. E.	c.	29·50	82	82	87	82·72	N. E.	c.
17	15° 25′ 30″ S.	145° 38′ 00″ W.	29·46	82	81	83		E. N. E.	b.	29·50	83	82	82		N. E. by E.	b.	29·46	85	82	87		N. E. by E.	b.	29·52	79	82	84		E. by N.	r.
18	15° 32′ 20″ S.	145° 09′ 00″ W.	29·46	78	82	75		East.	q. r.	29·54	85	82	82		E. by N.	"	29·44	85	83	82		N. E.	q. r.	29·50	79	82	79		E. by N.	q. r.
19	15° 33′ 53″ S.	145° 19′ 10″ W.	29·40	79	82	77		East.	"	29·56	81	82	78		E. N. E.	r.	29·44	84	82	84		N. E.	b.	29·58	80	82	80		N. E.	c. t.
20	16° 14′ 00″ S.	144° 45′ 00″ W.	29·50	78	81	76		East.	c.	29·62	84	82	84		E. ½ S.	c.	29·50	85	82	84		N. E. ½ E.	"	29·56	81	82	80		East.	b.
21	16° 43′ 41″ S.	144° 40′ 00″ W.	29·53	79	82	72		East.	b.	29·60	84	82	76		E. by S.	b.	29·52	82	83	77		E. ½ S.	q. r.	29·60	80	82	78		E. by N.	"
22			29·52	80	82	78		E. by N.	q.	29·60	84	82	83		East.	"	29·53	84	82	82		East.	b.	29·60	82	82	81		East.	q.
23	Off Sea Gull Group.		29·58	78	81	79		E. by S.	"	29·60	82	82	81		East.	q.	29·53	84	82	83		E. ½ N.	q.	29·64	78	81	80		E. by N.	"
24	16° 45′ 00″ S.	144° 10′ 00″ W.	29·42	81	82	80		East.	"	29·60	84	82	81		E. by N.	c.	29·50	86	83	83		E. ½ S.	r. q.	29·60	79	82	78		E. by S.	c.
25	14° 34′ 00″ S.	143° 26′ 58″ W.	29·48	80	82	79		E. by S. ½ S.	c. t.	29·55	78	82	79		E. by N. ½ N.	q. r.	29·50	83	82	82		N. E. by E.	"	29·54	80	82	76		E. by N.	c. t.
26	15° 47′ 48″ S.	142° 48′ 00″ W.	29·51	77	81	80		E. by N.	q. t.	29·60	77	82	77		N. E. by E.	q.	29·50	84	82	82		E. by N. ½ N.	q.	29·54	79	82	80		E. ½ N.	b.
27	15° 26′ 33″ S.	142° 15′ 48″ W.	29·42	80	82	77		E. by N.	c. r.	29·50	80	82	78		E. N. E.	"	29·46	86	82	82		East.	b.	29·60	80	82	79		E. ½ N.	c.
28	15° 07′ 00″ S.	142° 06′ 40″ W.	29·48	80	82	79		E. by N.	q.	29·58	78	82	81		E. N. E.	"	29·50	86	82	86		E. by N.	q.	29·54	81	82	79		East.	q.
29	16° 02′ 40″ S.	141° 30′ 40″ W.	29·54	78	81	78		E. by N.	b.	29·60	84	82	82		E. by N. ½ N.	b.	29·52	88	82	86		E. by N.	b.	29·54	81	81	79		E. ½ N.	c.
30	16° 46′ 48″ S.	141° 09′ 48″ W.	29·46	78	81	78		E. N. E.	q. r.	29·57	83	81	80		N. N. E. ½ E.	c.	29·50	82	82	86		E. N. E.	q. r.	29·55	78	82	81		N. N. E.	b.
31	16° 57′ 17″ S.	140° 56′ 30″ W.	29·48	80	82			N. E.	b.	29·56	80	82			N. ½ E.	b.	29·48	86	82			N. by E.	b.	29·48	82	82			N. ½ E.	"

X.

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. BRIG PORPOISE.

JANUARY, 1841.

Date.	POSITION AT NOON.		3 A.M.							9 A.M.							3 P.M.							9 P.M.						
			SYMP., THERMOM., AND HYGROM.							SYMP., THERMOM., AND HYGROM.							SYMP., THERMOM., AND HYGROM.							SYMP., THERMOM., AND HYGROM.						
	Latitude.	Longitude.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.
1	16° 49′ 30″ S.	140° 50′ 48″ W.	29·48	78°	81°	78°	82·68	Northb.	c.	29·50	82°	82°	81°	82·68	N. by E.	c.	29·42	83°	82°	86°	83·72	N. ¼ E.	b.	29·46	82°	82°	79°		N. by E.	p.
2	16° 26′ 42″ S.	140° 54′ 00″ W.	29·42	80	82	78	83·68	N. E. by E.	b.	29·50	83	82	79	83·68	E. N. E.	"	29·44	84	82	85	84·70	E. N. E.	c.	29·52	80	82	78	80·72	E. N. E.	b.
3	15° 22′ 00″ S.	141° 03′ 00″ W.	29·40	80	82	80	76·70	E. N. E.	"	29·50	86	82	86	76·70	N. E. ½ E.	b.	29·42	80	82	82	86·70	N. E. by E.	b.	29·52	81	82	80	81·70	E. N. E.	c.
4	15° 13′ 13″ S.	141° 00′ 00″ W.	29·48	77	81	76	84·70	N. N. E.	q.	29·50	84	82	80	84·70	E. N. E.	c.	29·44	86	82	84	86·68	E. by N.	"	29·50	81	82	79	81·70	E. by S.	b.
5	17° 51′ 09″ S.	141° 56′ 00″ W.	29·48	81	82	75		E. by N.	b.	29·53	84	82	77		E. by S.	"	29·46	87	82	82	87·68	East.	"	29·52	79	81	80	79·72	East.	c.
6	20° 29′ 48″ S.	143° 07′ 20″ W.		81	82	80	82·70	East.	"	29·60	82	81	81	82·70	E. by N.	b.	29·54	84	80	83		E. by N.	"	29·64	80	80	80	80·70	E. by N.	b.
7	21° 38′ 00″ S.	143° 34′ 37″ W.	29·58	77	80	78	79·70	E. by N.	"	29·56	79	80	78	79·70	E. by N.	"	29·52	77	80	78	79·70	N. E.	"	29·58	77	79	79	77·70	N.E.byE.½E.	"
8	20° 50′ 00″ S.	143° 38′ 18″ W.	29·43	76	78	78	81·68	E. N. E.	"	29·56	81	79	78	81·68	Calm.	"	29·52	92	83	86	92·68	Calm.	"	29·45	80	82	80	80·70	Calm.	"
9	20° 49′ 00″ S.	143° 29′ 30″ W.	29·40	78	80	78	88·68	Northb.	"	29·54	78	82	78	88·68	Calm.	"	29·42	90	86	86	90·70	W. N. W.	"	29·50	78	82	76	78·70	E. by N.	"
10	20° 37′ 39″ S.	143° 23′ 11″ W.	29·50	78	81	76		E. by S.	"	29·58	78	80	80		E. by S.	q. r.	29·48	80	82	79	80·70	N. N. E.	"	29·56	80	81	82	80·74	N.E.byE.½E.	"
11	20° 07′ 35″ S.	143° 21′ 10″ W.	29·50	80	80	76	80·70	N.E.byE.½E.	"	29·56	80	82	82	80·70	N. E. ½ E.	b.	29·50	84	82	84	84·70	N. E. by E.	"	29·60	79	82	79	79·72	N. E. by E.	"
12	20° 00′ 12″ S.	144° 35′ 07″ W.	29·43	80	80	78	84·72	N. E. by E.	"	29·55	84	81	79	84·72	N. E. by E.	"	29·45	86	82	85	86·70	N. E. by E.	"	29·54	81	82	80	81·74	East.	"
13	20° 00′ 00″ S.	144° 20′ 30″ W.	29·48	80	81	80	84·72	E. N. E.	"	29·52	84	82	81	84·72	E. ½ N.	"	29·44	83	82	86	83·73	E. S. E.	c.	29·52	79	81	80		N. E. by E.	c.
14	19° 21′ 24″ S.	145° 24′ 00″ W.	29·52	78	82	78	86·74	N. E.	"	29·50	86	82	84	86·74	N.E.byE.½E.	c.	29·42	86	82	84	86·70	N.E.byE.½E.	b.	29·42	82	82	82	82·74	E. ½ N.	b.
15	17° 38′ 38″ S.	144° 53′ 26″ W.	29·46	80	82	76	84·70	E. ½ S.	"	29·80	84	82	82	84·70	E. by N.	b.	29·70	86	82	86	86·74	E. by S.	"	29·78	83	82	84	83·74	East.	c.
16	16° 27′ 02″ S.	144° 39′ 20″ W.	29·70	80	81	74	87·70	East.	q. r.	29·76	87	82	86	87·70	East.	q.	29·68	85	83	84	85·74	East.	q.	29·76	77	82	76		E. S. E.	q. t.
17	15° 43′ 19″ S.	144° 50′ 50″ W.	29·66	76	82	77		East.	"	29·76	76	82	75	76·70	E. by N.	c. t.	29·63	80	82	82	80·74	N. N. E.	p.	29·70	78	82	77	78·72	E. by S.	q.
18	Off Carls	hoff Island.	29·67	78	82	74		Calm.	q. t.	29·76	78	82	77	78·74	E. N. E.	m.	29·70	86	82	88		N. E.	q. t.	29·74	84	82	84	84·78	N. E. by E.	q. t.
19	15° 34′ 20″ S.	145° 41′ 00″ W.	29·70	78	82	78		N. E.	c. t.	29·82	84	82	81	84·72	East.	c.	29·74	86	82	86	86·74	N. E. by E.	b.	29·71	82	82	81	82·74	E. N. E.	b.
20	14° 50′ 25″ S.	147° 40′ 08″ W.	29·72	81	82	80		E. by N.	b.	29·84	85	83	84	85·70	East.	"	29·71	84	83	83		E. S. E.	"	29·82	82	83	81	82·74	S. S. E.	"
21	17° 24′ 49″ S.	149° 24′ 04″ W.	29·70	82	82	81		E. S. E.	"	29·82	86	83	85	86·72	East.	b.	29·72	91	83	89	91·72	E. N. E.	"	29·84	80	82	81	80·72	E. N. E.	p.
22			29·78	75	82	73		E. N. E.	"	29·82	83	83	81	83·70	W. N. W.	"	29·66	91	83	89	86·70	E. N. E.	"	29·72	81	83	70	71·65	Calm.	b.
23			29·82	76	82	77		Calm.	"	29·66	83	83	82	83·74	E. by N.	"	29·62	76	82	80	81·72	E. by N.	"	29·70	78	84	80	78·72	S. E.	"
24			29·65	78	83	77		Calm.	"	29·72	86	84	84	86·70	S. E.	"	29·62	86	84	86	81·72	N. E. by E.	"	29·72	74	83	73	83·74	Calm.	"
25			29·72	78	82	79		Calm.	"	29·74	86	83	85	86·72	W. S. W.	c. r.	29·70	86	83	87	80·80	S. W. by S.	"	29·72	80	83	80	80·72	Calm.	"
26			29·84	78	82	75		E. S. E.	"	29·78	82	82	82		N. E.	q. r.	29·68	88	84	86	88·76	E. N. E.	"	29·75	79	82	78	79·72	S. E.	q. r.
27			29·67	76	82	74		S. E.	"	29·76	84	83	83	84·68	S. W.	p.	29·66	84	83	84		S. W.	p.	29·76	82	82	81		South.	b.
28			29·68	75	81	75		S. E.	"	29·70	84	83	82	84·68	E. N. E.	c.	29·66	93	84	92		E. S. E.	r.	29·76	78	83	76	80·72	South.	"
29			29·60	74	82	74		S. S. E.	"	29·76	94	83	92	94·80	W. S. W.	b.	29·58	96	85	96	96·74	Calm.	p.	29·56	80	83	78	80·70	S. W.	"
30	16° 47′ 39″ S.	149° 52′ 00″ W.	29·58	72	83	76		W. S. W.	"	29·72	92	84	82	92·70	S. W.	p.	29·50	95	84	96	95·72	W. S. W.	b.	29·52	83	84	82	83·74	W. S. W.	"
31	15° 34′ 58″ S.	150° 10′ 00″ W.	29·58	78	82	77		West.	p.	29·60	84	82	82	84·74	W. ½ N.	b.	29·44	92	86	93	92·72	Calm.	"	29·56	83	83	81	83·72	W. N. W.	"

Tahiti. 17° 29′ 21″ S. 149° 29′ 17″ W.

XI.

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. BRIG PORPOISE.

FEBRUARY, 1841.

Date.	Position at Noon.		3 A.M.							9 A.M.							3 P.M.							9 P.M.						
			Symp., Thermom., and Hygrom.							Symp., Thermom., and Hygrom.							Symp., Thermom., and Hygrom.							Symp., Thermom., and Hygrom.						
	Latitude.	Longitude.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.
1	15° 04′ 00″ S.	150° 02′ 00″ W.	29·56	78°	82°			N.W.¼N.	c.	29·63	86°	83°		80·70	S.E.	b.	29·51	85°	85°		85·74	E.N.E.	c.	29·54	79°	84°		79·70	N. by E.	b.
2	14° 39′ 42″ S.	150° 23′ 00″ W.	29·62	78	83			N.E.	b.	29·64	88	84		88·68	East.	"	29·50	86	84		86·70	Calm.	b.	29·53	88	82		78·66	N.N.E.	q.r.
3	14° 41′ 00″ S.	149° 56′ 00″ W.	29·60	78	82			Calm.	c.	29·68	81	82		81·75	North.	c.	29·58	83	83		83·72	N. by E.¼E.	c.	29·68	81	82		81·74	N. by W.	b.
4	14° 10′ 00″ S.	150° 10′ 00″ W.	29·54	81	82			North.	"	29·70	80	82		80·72	N. by E.	"	29·56	80	79		80·72	North.	"	29·68	79	79		79·74	N. by E.	"
5	12° 52′ 33″ S.	150° 43′ 15″ W.	29·60	80	79			N.E.¼N.	"	29·68	81	79		81·74	N.E.	b.	29·58	80	79		80·68	N.E.	b.	29·60	78	78		78·70	N.E.	c.
6	11° 25′ 43″ S.	151° 55′ 20″ W.	29·62	78	79			N.E. by N.	o.	29·72	84	80		84·70	N.E.	q.	29·60	85	79		85·66	N.N.E.	q.	29·68	77	78		77·68	N.E. by E.	q.
7	10° 49′ 09″ S.	152° 26′ 55″ W.	29·60	76	78			North.	c.r.	29·70	83	80		83·70	N.E.	b.	29·64	82	80		82·70	N.E.	c.r.	29·52	79	80		79·75	Calm.	c.
8	10° 00′ 00″ S.	154° 19′ 15″ W.		78	80			N.E. by E.	q.r.	29·72	82	80		82,74	E.N.E.	"	29·62	76	80		76·68	N.E. by E.	b.	29·70	78	80		78·72	N.E.	q.r.
9	10° 00′ 00″ S.	154° 19′ 15″ W.	29·64	74	78			East.	"	29·76	78	78		82·70	E. by N.	c.	29·64	79	82		79·71	North.	q.r.	29·62	80	83		80·72	E. by N.	b.
10	9° 57′ 38″ S.	156° 12′ 52″ W.	29·66	82	84			E. by N.	"	29·70	84	84		84·72	E.N.E.	b.	29·60	83	85		83·72	N.E. by E.	b.	29·68	82	84		82·74	N.E. by E.	c.
11	9° 03′ 31″ S.	157° 28′ 41″ W.	29·64	80	84			N.E.¼E.	"	29·70	84	84		84·72	N.E. by N.	c.	29·60	84	85		84·72	N.E. by N.	"	29·62	84	84		84·72	E. by N.	"
12	10° 08′ 13″ S.	158° 10′ 59″ W.	29·64	82	84			N.E.	b.	29·74	86	86		86·72	East.	b.	29·64	85	85		85·75	North.	o.	29·70	81	84		81·74	E.N.E.	q.r.
13	9° 44′ 32″ S.	158° 36′ 29″ W.	29·64	82	84			N.E. by E.	q.r.	29·74	87	84		87·74	N.E. by E.	c.	29·64	86	85		86·70	N.E.¼E.	c.	29·74	82	86		82·76	N.E.¼N.	c.
14	10° 02′ 30″ S.	158° 37′ 00″ W.	29·66	82	84			E. by S.	c.	29·84	82	84			N.E.	q.r.	29·72	83	84		83·72	N.N.E.	"	29·75	80	84		80·74	N.E. by N.	b.
15	9° 38′ 40″ S.	158° 01′ 28″ W.	29·72	82	84			N.E.¼N.	b.	29·80	80	85		86·70	N.E. by N.	b.	29·68	85	85		85·72	N.N.E.	b.	29·76	81	85		81·74	N.E.	"
16	8° 55′ 00″ S.	158° 14′ 05″ W.	29·68	81	82	82°		N.E.byE.¼E.	"	29·76	86	84	84°	86·76	N.E. by E.	"	29·64	87	85	84°	87·76	N.N.E.	"	29·74	82	84	82°	82·75	N.E.	c.r.
17	7° 55′ 20″ S.	158° 57′ 05″ W.		82	84	80		N.E.	c.	29·74	85	85	84	85·74	N.E.¼N.	c.	29·62	88	85	84	88·74	N.E. by E.	c.	29·76	82	84	83	82·76	N.E.byE.¼E.	b.
18	6° 14′ 56″ S.	159° 37′ 55″ W.	29·68	81	83	82		N.E.	b.	29·76	86	84	83	86·72	N.E.	b.	29·68	84	84	82	84·74	N.E.	b.	29·72	81	83	82	81·72	N.E.	"
19	6° 20′ 29″ S.	158° 55′ 07″ W.	29·72	80	83	81		N.E. by N.	"	29·82	83	83	82	84·70	N. by E.	"	29·66	86	84	82	84·72	N.N.E.¼E.	"	29·74	82	83	80	82·74	N.E.	"
20	5° 29′ 25″ S.	158° 46′ 35″ W.	29·74	80	82	80		E.N.E.	"	29·84	84	83	82	83·74	E.N.E.	"	29·74	84	84	81	86·68	E.N.E.	"	29·78	82	82	81·5	81·74	N.E. by E.	c.
21	4° 22′ 12″ S.	159° 14′ 86″ W.	29·70	80	82	80		N.N.E.	q.r.	29·74	86	82	80	86·72	N.E.	"	29·64	86	82	81	86·72	N.E. by E.	q.	29·58	81	82	80	81·72	E.S.E.	"
22	3° 50′ 25″ S.	159° 18′ 20″ W.	29·64	79	81	81		N.E.¼E.	b.	29·74	84	82	82	84·68	N.E. by E.	"	29·60	82	82	80	82·72	N.E. by E.		29·68	80	81	81	80·74	E.N.E.	"
23	2° 26′ 23″ S.	159° 46′ 52″ W.	29·66	80	82	80		E.N.E.	"	29·74	84	81	82	84·74	E. by N.	"	29·60	85	81	80	85·74	E.N.E.	b.	29·72	80	82	80	80·70	E.¼S.	b.
24	2° 00′ 00″ S.	160° 16′ 20″ W.	29·84	78	80	79		E.N.E.	"	29·72	86	82	84	86·72	East.	"	29·64	86	83	82	86·68	E.¼S.	"	29·74	80	81	80	80·70	East.	"
25	1° 18′ 22″ S.	160° 50′ 50″ W.	29·64	78	81	79		Calm.	"	29·76	86	82	81	86·72	N.E.	"	29·60	83	82	82	83·74	N.E.	"	29·74	79	81	80	70·72	N.E.	"
26	0° 01′ 10″ S.	161° 36′ 00″ W.	29·62	79	81	78		E.N.E.	"	29·72	86	82	82·5	86·72	N.E.byE.¼E.	"	29·58	84	82	82·5	84·72	E.¼N.	"	29·68	80	81	80·5	80·72	East.	c.
27	1° 44′ 14″ N.	161° 16′ 00″ W.	29·64	79	80	80		E.¼S.	c.	29·70	84	81	80·5	84·72	E.¼S.	"	29·58	84	82	83	84·74	E. by S.	"	29·66	79	81	81	79·74	E. by S.	b.
28	3° 49′ 56″ N.	160° 51′ 00″ W.	29·64	81	82	80		E.S.E.	c.r.	29·82	78	81	74·5		East.	q.r.	29·66	80	82	79		E.N.E.		29·74	77	81	76·5	77·76	E. by N.¼N.	c.

XII.

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. BRIG PORPOISE.

MARCH, 1841.

Date.	POSITION AT NOON.		3 A. M. SYMP., THERMOM., AND HYGROM.							9 A. M. SYMP., THERMOM., AND HYGROM.							3 P. M. SYMP., THERMOM., AND HYGROM.							9 P. M. SYMP., THERMOM., AND HYGROM.						
	Latitude.	Longitude.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.	Symp.	Air.	Water.	Mast-head.	Hygrom.	Wind.	Weather.
1	4° 57′ 39″ N.	160° 33′ 15″ W.	29·66	82°	82°	76·5°		E. by N.	q.	29·76	84°	82°	79°		E. by N. ½ N.	c. r.	29·58	80°	82°	80·5°		N. E. by E.	r. q.	29·84	80°	80°	80°	80·76	N. E. by E.	q.
2	6° 03′ 00″ N.	161° 05′ 00″ W.	29·64	79	82	79		N. E. by E.	q. p.	29·75	86	82	79·5	86·78	N. E.	c. q.	29·70	79	81	76·5	79·76	N. E.	q.	29·74	80	81	80		N. E.	c.
3	6° 32′ 46″ N.	161° 05′ 12″ W.	29·63	81	82	79		N. E.	c.	29·90	79	82	78		E. by N.	q.	29·60	84	82	77	84·76	N. E. by E.	c.	29·70	80	82	79	80·74	N. by E.	q. r.
4	7° 07′ 39″ N.	161° 38′ 50″ W.		80	82	77		E. N. E.	"	29·72	84	82	82	84·76	N. W. by N.	"	29·60	84	82	81·5	84·72	N. E. by E.	b.	29·66	83	82	80	82·76	E. by N.	c.
5	8° 45′ 22″ N.	161° 44′ 04″ W.	29·66	79	81	78		E. by N.	"	29·76	83	81	81	86·76	N. E. by E.	b.	29·64	86	81	85·5		N. E. by E.	"	29·74	78	81	79		N. E. by E.	q. r.
6	10° 15′ 39″ N.	161° 58′ 50″ W.	29·67	78	80	75		E. by N.	b.	29·76	76	79	79	76·66	E. N. E.	c.	29·64	84	80	79	84·72	N. E. by E.	"	29·74	77	79	77·5	77·70	N. E. by E. ¼ E.	b.
7	11° 46′ 08″ N.	161° 59′ 50″ W.	29·62	78	80	75		E. by N.	q.	29·78	81	79	78	81·70	E. N. E.	"	29·65	81	80	79	81·74	N. E. by E.	q.	29·78	78	79	77·5	78·72	N. E. by E. ¼ E.	"
8	13° 22′ 00″ N.	162° 10′ 34″ W.	29·76	77	78	77		E. by N.	o.	29·80	78	78	77	78·64	N. E. by E. ¼ E.	b.	29·68	83	79	79	83·64	E. by N. ½ N.	b.	29·70	76	77	77	76·68	E. ½ N.	"
9	15° 25′ 16″ N.	162° 01′ 58″ W.	29·76	77	77	76·5		E. N. E.	c.	29·84	80	77	78	82·70	E. by N. ½ N.	c.	29·78	81	78	78·5	81·68	E. by N. ½ N.	"	29·80	75	77	77	75·69	E. N. E.	c.
10	17° 13′ 30″ N.	162° 25′ 58″ W.	29·76	77	78	76		E. N. E.	c. q.	29·92	82	78	78	82·76	E. N. E.	c. r.	29·82	84	78	75	84·76	N. E. by E.	q.	29·90	76	78	76		N. E. by E.	q.
11	18° 40′ 34″ N.	163° 02′ 51″ W.	29·85	74	76	74		N. E. by E.	q.	29·94	80	79	75	80·74	N. E. by N.	c.	29·88	77	78	75	77·72	N. E.	c.	29·92	76	77	73	76·72	N. E.	q. r.
12	18° 07′ 16″ N.	162° 48′ 31″ W.	29·88	75	76	72·5		N. E.	q. l.	29·96	76	78	74		N. E.	q. r.	29·84	74	77	72·5	74·72	N. E. ½ E.	q. r.	29·00	75	75	73	75·71	N. E. by E.	c.
13	17° 42′ 52″ N.	163° 04′ 00″ W.	29·86	75	77	75		N. E. by E.	c.	29·92	77	77	74·5	77·64	N. E. by E.	c. r.	29·86	77	76	75	77·70	E. N. E.	c.	29·96	77	77	75·5		N. E. by E. ¼ E.	"
14	19° 22′ 23″ N.	163° 26′ 13″ W.	29·90	74	76	74·5		E. N. E.	o.	30·00	80	77	74	80·68	N. E.	b.	29·90	79	77	79	79·66	N. E. by E. ¼ E.	"	30·00	73	75	74	73·66	E. by N. ½ N.	"
15	20° 21′ 00″ N.	163° 19′ 58″ W.	29·86	72	74	75		N. E. ½ E.	b.	29·94	70	76	73	76·64	N. E. by N.	"	29·93	75	76	73	75·58	N. E. ¾ E.	"	30·02	72	74	74·5	72·64	N. E. by E.	"
16	22° 27′ 45″ N.	163° 27′ 15″ W.	29·90	72	74	71·5		N. E. by E. ¼ E.	"	30·05	74	74	73	74·64	N. E. by E.	"	29·98	76	74	74	76·66	N. E.	b.	29·96	71	74	70·5	71·64	E. N. E.	"
17	24° 03′ 27″ N.	162° 47′ 00″ W.	30·00	70	72·5	70		East.	q.	30·09	72	72·5	71·5	72·62	E. N. E.	"	30·00	73	72·5	72	73·62	E. N. E.	c.	30·00	70	71	70	70·64	East.	o.
18	25° 50′ 00″ N.	162° 08′ 00″ W.	30·00	70	70	69		East.	o.	30·07	73	71	70·5	73·64	E. ¼ S.	c.	29·96	73	72	70	72·60	E. N. E.	b.	30·04	70	71	69·5	70·58	East.	b.
19	25° 44′ 30″ N.	161° 40′ 50″ W.	29·94	69	70	69		E. S. E.	c. l.	30·04	77	70	72	74·60	N. E. by E.	"	30·06	77	72	72	74·64	East.	"	30·06	70	72	71	71·66	E. N. E.	"
20	25° 02′ 45″ N.	161° 17′ 22″ W.	30·06	70	70	71		N. E. ½ E.	b.	30·12	74	71	74	74·60	E. N. E.	b.	30·00	74	71	72	77·62	E. N. E.	"	30·16	71	70	72	70·64	N. E. by E.	c.
21	23° 22′ 48″ N.	160° 13′ 00″ W.	30·08	72	71	70		E. N. E.	c.	30·16	74	74	73	74·56	E. N. E.	"	30·02	72	75	74	72·62	N. E. by E. ¼ E.	c.	30·12	74	74	74	74·62	N. E. by E.	"
22	22° 51′ 47″ N.	159° 42′ 31″ W.	30·02	75	76	72		E. N. E.	"	30·12	76	75	73·5	76·66	E. N. E.	c.	30·02	71	74	74	71·56	E. N. E.	b.	30·06	73	75	73		E. N. E.	q.
23	21° 31′ 45″ N.	158° 54′ 00″ W.	30·00	71	73·5	73		N. E. by E.	q.	30·02	75	74	72·5	75·64	N. E. by E. ¼ E.	b.	29·88	79	76	77	79·64	N. E. by E.	"	29·94	72	75	73	72·66	N. E. by E.	b.
24	21° 10′ 00″ N.	158° 04′ 30″ W.	29·88	72	75	73		N. E. ½ N.	c.	29·94	76	75	75	76·65	N. E.	"	29·86	80	76	77	80·66	E. N. E.	"	29·90	72	75	76	72·66	E. N. E.	q.

XIII.

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP RELIEF.

JULY, 1839.

Date.	POSITION AT NOON.		3 A.M.			9 A.M.			3 P.M.			9 P.M.			WIND.		Clouds.	Weather.
			BAROM. AND THERMOM.			BAROM. AND THERMOM.			BAROM. AND THERMOM.			BAROM. AND THERMOM.						
	Latitude.	Longitude.	Barometer.	Air.	Water.	Barometer.	Air.	Water.	Barometer.	Air.	Water.	Barometer.	Air.	Water.	Direction.	Force.		
16	Sailed from Callao.					30·06	62°	61°	30·04	62°	61°	30·06	61°	60°	Sd. and Ed.	4	Overcast.	f.
17	11° 19′ 18″ S.	78° 28′ 00″ W.	30·01	64°	64°	30·08	62	63	30·08	66	67·5	30·06	68	68	Sd. and Ed.	4	Overcast.	
18	10° 42′ 00″ S.	80° 02′ 00″ W.	30·06	65	64	30·09	66	67·5	30·05	66	66	30·10	66	68	E. S. E	2 & 4	Overcast.	
19	10° 10′ 00″ S.	81° 58′ 23″ W.	30·08	65	68	30·00	68	68	30·02	69	69	30·10	67	68	S. E. to E. S. E.	4	Overcast.	
20	9° 32′ 00″ S.	83° 41′ 20″ W.	30·09	65	68	30·10	68	68	30·09	69	69	30·12	67	68	S. E.	4	Cumulus.	b.
21	8° 50′ 00″ S.	85° 53′ 39″ W.	30·08	68	68	30·13	70	70	30·08	70	70	30·00	70	70	S. S. E. to E. S. E.	4	Overcast.	"
22	8° 04′ 00″ S.	88° 02′ 41″ W.	30·10	69	70	30·12	70	70	30·03	72	71	30·10	71	70	Sd. and Ed.	4 & 5	Overcast.	"
23	7° 02′ 20″ S.	90° 37′ 15″ W.	30·04	71	72	30·05	71	71	30·02	74	72	30·07	70	71	S. E.	5	Overcast.	"
24	6° 19′ 00″ S.	92° 56′ 53″ W.	30·04	72	72	30·07	73	72	30·02	74	73	30·06	72	72	S. E.	4	Cumulus.	"
25	5° 40′ 35″ S.	95° 27′ 37″ W.	30·04	71	71	30·06	74	72	30·03	73	72	30·05	72	72	S. E. to E. S. E.	4	Comolus.	"
26	5° 00′ 18″ S.	97° 50′ 19″ W.	30·02	72	72	30·13	75	76	30·01	76	73	30·05	74	72	E. S. E.	4	None.	"
27	4° 11′ 00″ S.	100° 00′ 00″ W.	30·04	73	72	30·06	75	71·5	30·00	76	72	30·04	72	72	E. S. E. to E. by N.	4	Cumulus.	"
28	3° 35′ 00″ S.	101° 55′ 44″ W.	30·03	72	72	30·06	75	73	30·02	75	73	30·03	73	73	E. S. E.	4	Cum. Strat.	"
29	3° 02′ 00″ S.	104° 02′ 39″ W.	30·00	72	72	30·03	75	74	29·99	78·5	73	30·02	74	73	E. S. E.	4	Cum. Strat.	"
30	2° 19′ 00″ S.	106° 01′ 12″ W.	30·02	73	74	30·05	76	73	29·99	77	75	30·02	74	74	E. S. E.	4	Cumulus.	"
31	1° 05′ 00″ S.	107° 57′ 03″ W.	30·04	72	71	30·07	73	72	30·00	75	73	30·08	73	70	E. S. E. to E. by N.	4	Cum. Strat.	"

XIV.

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP RELIEF.

AUGUST, 1839.

Date.	POSITION AT NOON.		3 A.M.			9 A.M.			3 P.M.			9 P.M.			WIND.		Clouds.	Weather.
			BAROM. AND THERMOM.			BAROM. AND THERMOM.			BAROM. AND THERMOM.			BAROM. AND THERMOM.						
	Latitude.	Longitude.	Barometer.	Air.	Water.	Barometer.	Air.	Water.	Barometer.	Air.	Water.	Barometer.	Air.	Water.	Direction.	Force.		
1	0° 14′ 30″ N.	109° 32′ 11″ W.	30·01	71°	69·5°	30·04	72°	69·5°	30·00	72°	70°	30·08	71°	71°	E. N. E.	2 & 4	Stratus.	b.
2	1° 24′ 36″ N.	111° 28′ 48″ W.	30·06	72	73	30·06	77	74	30·00	76	75	30·02	74	74	N. E.	4	Cirro-Cum.	"
3	2° 53′ 00″ N.	113° 37′ 08″ W.	30·02	73	74		80	80	30·00	77	78	30·03	74	81	S. E.	4	Cumulus.	"
4	4° 55′ 00″ N.	115° 25′ 42″ W.	30·00	76	79	30·00	80	80	30·01	82	81	30·03	79·5	81	S. E. ½ E.	4	Cumulus.	"
5	6° 40′ 30″ N.	116° 41′ 40″ W.	30·07	79	80	30·09	83	81	30·08	84	82	30·09	79	81	E. S. E.	2	Cirrus & Cum.	"
6	8° 00′ 40″ N.	117° 29′ 02″ W.	30·10	80	79	30·06	82	81	30·01	88	83	30·06	81	81	Variable.	1	Cum. & Cirrus.	"
7	8° 49′ 00″ N.	117° 43′ 28″ W.	30·00	79	81	30·05	83	84	30·02	84	83	30·05	82	84	Variable.	2	Mixed.	r. b.
8	9° 39′ 00″ N.	117° 47′ 00″ W.	30·06	81	82	30·03	82	82	30·00	83	82	30·05	82	81·5	Var. Wd.	2	Mixed.	r.
9	10° 27′ 00″ N.	117° 56′ 43″ W.	30·00	77	78	30·08	77	82	30·08	79	83	30·05	80	83	Var. Wd.	4	Nimbus.	"
10	11° 41′ 00″ N.	118° 33′ 35″ W.	29·99	79	80	30·00	78	82	29·97	79	82	29·99	79	82	Westerly.	4	Mixed.	r. q.
11	12° 59′ 00″ N.	119° 17′ 00″ W.	30·00	80	80	29·79	76	82·5	29·96	82	84	29·99	80	80	S. W.	5 in q.	Nimbus.	q.
12	13° 40′ 00″ N.	120° 52′ 12″ W.	29·92	80	82	29·93	81	82	29·97	80	82·5	29·97	79	83	S. W. by S.	5	Nimbus.	"
13	14° 18′ 00″ N.	122° 28′ 56″ W.	29·90	80	82	29·90	80	82	29·94	81	82	29·96	81	82	S. S. W.	7	Nimbus.	q. & r.
14	15° 12′ 00″ N.	123° 27′ 32″ W.	29·90	80	80	29·98	83	82	29·92	82	82	30·00	80	80	S. S. W.	5	Cirro-Cum.	b.
15	15° 31′ 25″ N.	124° 30′ 59″ W.	29·98	80	80	29·98	82	80	29·91	82	81	29·95	80	80	S. S. W.	2	Mixed.	"
16	16° 12′ 30″ N.	125° 33′ 05″ W.	29·90	80	81	29·98	80	81	29·90	83	84	29·97	82	81	Sd.	2	Cumulus.	"
17	16° 27′ 00″ N.	126° 10′ 08″ W.	29·91	81	82	29·98	82	82	29·97	82	81	30·02	82	80	S. W.	2	Cumulns.	"
18	16° 35′ 00″ N.	126° 09′ 24″ W.	30·02	80	80	30·00	82	80	30·00	83	80	30·00	80	80	W. S. W.	2	Cumulus.	"
19	15° 44′ 00″ N.	126° 47′ 26″ W.	29·98	80	81	30·02	83	81	29·94	82	82	29·98	81	81	Var. Nd.	2	Cirrus.	"
20	15° 30′ 00″ N.	128° 00′ 56″ W.	29·90	80	82	30·01	82	82	29·91	83	82	29·91	83	82	Nd. and Wd.	1	Cumulus.	Sultry.
21	15° 25′ 00″ N.	128° 17′ 18″ W.	29·92	80	80	30·00	82	80	29·92	83	81	30·00	82	80	Nd. and Wd.	1	Cumulus.	"
22	15° 36′ 00″ N.	128° 23′ 36″ W.	29·97	80	82	30·00	86	81	29·98	90	81	30·00	81	82	Calm.	0	Cirro-Cum.	"
23	15° 52′ 00″ N.	128° 34′ 15″ W.	29·78	82	81	30·01	84	81	29·96	86	82	29·99	84	80	Variable.	1	Mixed.	"
24	16° 23′ 00″ N.	130° 03′ 40″ W.	29·90	79	78	29·98	81	79	29·96	83	79	30·00	82	79	Var. Ed.	2 q.	Nimbus.	r.
25	16° 00′ 00″ N.	132° 16′ 46″ W.	29·96	80	80	30·02	83	80	29·99	81	80	30·04	80	79·5	N. E.	5	Cumulus.	b.
26	16° 10′ 00″ N.	134° 47′ 32″ W.	29·99	80	79	30·01	82	79·5	29·97	80	79	30·05	79	78	N. E.	5	Cumulus.	"
27	15° 50′ 00″ N.	137° 36′ 00″ W.	30·00	75	74	30·03	78	77	29·98	78	78	30·04	77	78	N. E.	4	Cumulus.	"
28	16° 06′ 00″ N.	139° 04′ 02″ W.	30·00	76	79	30·00	80	78	30·02	79	81	30·04	78	79	E. N. E.	2	None.	"
29	16° 23′ 00″ N.	141° 16′ 36″ W.	30·00	78·5	77	30·03	80	79	30·02	79	79	30·06	78	78	N. E. by E.	4	Mixed.	"
30	17° 13′ 00″ N.	144° 09′ 54″ W.	30·00	80	77	30·08	78·5	79	30·01	75	79	30·07	78	77	N. E.	4	Cum. Stratus.	"
31	18° 12′ 00″ N.	146° 58′ 14″ W.	30·00	79	77	30·05	77	76	30·03	80	78	30·04	70	77	N. E.	4	Cirro-Cum.	"

XV.

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP RELIEF.

SEPTEMBER, 1839.

Date.	POSITION AT NOON.		3 A.M.			9 A.M.			3 P.M.			9 P.M.			WIND.		Clouds.	Weather.
			BAROM. AND THERMOM.			BAROM. AND THERMOM.			BAROM. AND THERMOM.			BAROM. AND THERMOM.						
	Latitude.	Longitude.	Barometer.	Air.	Water.	Barometer.	Air.	Water.	Barometer.	Air.	Water.	Barometer.	Air.	Water.	Direction.	Force.		
1	19° 13′ 00″ N.	149° 43′ 23″ W.	30·05	74°	74°	30·05	77°	78°	30·04	78·5°	79·5°	30·03	76°	76°	N. E.	4	Cumulus.	b.
2	19° 55′ 00″ N.	151° 53′ 40″ W.	30·03	75	77	30·03	80	79·5	30·04	78	76	30·11	79	76	N. E.	4	Cumulus.	"
3	21° 02′ 45″ N.	154° 36′ 47″ W.	30·04	78	76	30·01	80	70	30·08	80	76	30·12	79	75	E. N. E.	4	Cumulus.	"
4	21° 26′ 00″ N.	157° 07′ 49″ W.	30·10	74	78	30·13	77	76	30·06	80	79	30·12	78	77	E. by N.	4	Mixed.	r.
5			30·12	78	77							30 05	79	77	N. E.			c. r.
6			30·03	76	76	30·05	74	73	30·04	88	79				N. E.			p.
7						30·08	80	79	30·06	84	79	30·06	78	77	N. E.			b.
8						30·12	82	72	30·04	84	77				N. E.			"
9			30·03	75	70	30·06			30·05	80	84		80	84	N. E.			"
10			30·06	76	76	30·06	78	84	30·04	79	82	30·05	82	78	N. E.			c.
11									30·04	82	78	30·03	78·5	75	N. E.			b.
12			30·05	78	75	30·15	76	79				30·07	78	76	N. E.			b. c.
13						30·15	78	79				30·05	76	75	N. E.			c.
14						30·18	79	75	30·06	83	78	30·04	79	79	N. E.			b.
15				82·5		30·06	82·5	78				30·04	78	78	N. E.			"
16			30·08	70	75	30·09	83	78	30·07	80	77				N. E.			"
17						30·04	83	79	30·12	83	79	30·00	78	77	N. E.			b. c.
18			30·09	76	77							30·08	78	77	N. E.			b.
19			30·12	78	77	30·11	85	78	30·07	82	80	30·10	80	78·5	N. E.	4	Cirro-Cum.	"
20	19° 22′ 00″ N.	159° 32′ 00″ W.	30·10	78	78	30·09	82	78	30·03	81	78	30·04	80	78	N. E.	4	Mixed.	"
21	17° 16′ 00″ N.	161° 07′ 00″ W.	30·07	79	78	30·04	81	77	30·02	81	78	30·04	80	81	Easterly.	5	Cirrus.	"
22	14° 48′ 00″ N.	162° 34′ 53″ W.	30·02	82	78	30·04	82	77	29·98	82	76	30·09	75	77	E. S. E.	5	Cirrus.	"
23	13° 28′ 00″ N.	163° 42′ 09″ W.	30·02	79	79	30·06	84	80	30·01	83	83	30·04	81	80	E. S. E.	2 & 4	Cirro-Cum.	r.
24	12° 00′ 00″ N.	164° 21′ 12″ W.	30·04	80	80	30·04	84	80	30·00	83	80·5	30·02	82	80	East.	4	Cirro-Cum.	"
25	9° 42′ 00″ N.	164° 40′ 00″ W.	29·05	82	80	30·04	85	80	30·02	82	80		80	80	Variable. East.	Var.	Mixed.	q.
26	8° 29′ 00″ N.	165° 00′ 00″ W.	30·00	70	80	30·00	80	80	29·98	76	80	29·98	80	80	Variable.	Var.	Nimbus.	"
27	7° 18′ 00″ N.	165° 16′ 00″ W.	29·98	82	80	30·01	85	81	29·92	85	82	29·98	83	81·7	E. S. E.	5	Cirrus.	b.
28	5° 20′ 00″ N.	166° 46′ 05″ W.	29·96	80	81	30·00	83	82	29·92	83	81·5	29·93	82	80	S. E. by E.	4	Cumulus.	"
29	3° 22′ 00″ N.	168° 58′ 15″ W.	29·29	81·5	81	29·96	84	82	29·98	82	81	30·00	81	80	S. E.	4	Cumulus.	"
30	1° 38′ 00″ N.	171° 00′ 40″ W.	30·00	82	80	29·97	83	81	29·97	82	80	29·98	80	79	S. E. by E.	4	Cirro-Cum.	"

Honolulu, Oahu. Latitude 21° 18′ 40″ N. Longitude 157° 52′ 15″ W.

XVI.

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP RELIEF.

OCTOBER, 1839.

Date.	POSITION AT NOON.		3 A.M. BAROM. AND THERMOM.			9 A.M. BAROM. AND THERMOM.			3 P.M. BAROM. AND THERMOM.			9 P.M. BAROM. AND THERMOM.			WIND.		Clouds.	Weather.
	Latitude.	Longitude.	Barometer.	Air.	Water.	Barometer.	Air.	Water.	Barometer.	Air.	Water.	Barometer.	Air.	Water.	Direction.	Force.		
1	0° 03′ 00″ S.	172° 05′ 00″ W.	29·92	80°	82°	30·00	83°	79°	29·00	83°	80°	29·95	84°	82°	E. S. E.	4	Cumulus.	b.
2	1° 53′ 00″ S.	173° 06′ 26″ W.	29·95	80	80	30·00	83	80	29·84	84	81	29·96	83	80	E. S. E.	4	Cumulus.	"
3	2° 50′ 00″ S.	174° 14′ 05″ W.	29·91	81	79	30·00	83	80	29·97	84	82	30·00	84	83	E. N. E.	2	None.	"
4	4° 36′ 00″ S.	175° 35′ 15″ W.	29·96	82	80	30·05	84	80	29·93	86	84	30·02	82	81	N. N. W.	4	Cirrus.	"
5	5° 41′ 00″ S.	176° 05′ 00″ W.	29·96	82	81	30·03	86	82	29·95	86	83	30·00	85	82	N. N. E.	1	Cumulus.	"
6	6° 27′ 00″ S.	176° 41′ 15″ W.	29·04	82	82	30·00	85	84	29·93	89	85	29·93	85	83	N. N. E.	1	Cumulus.	"
7	7° 06′ 00″ S.	177° 12′ 16″ W.	29·92	79	82	30·00	84	82	29·90	86	83	29·96	79	83	Variable.	0	Cum. Strat.	r.
8	8° 10′ 00″ S.	177° 14′ 00″ W.	29·92	78	82	30·00	79	80	29·90	85	82	29·96	83	80	N., S., E., and W.	q. & o.	Nimbus.	"
9	9° 55′ 00″ S.	177° 50′ 00″ W.	29·96	80	82	30·00	81	80	29·93	80	80	30·00	81	80	N. to S. W.	q.	Stratus.	"
10	10° 03′ 30″ S.	177° 13′ 31″ W.	29·94	81	80	30·04	84	79	29·93	86	82	30·00	84	80	S. W.	2	Cumulus.	b.
11	11° 03′ 00″ S.	177° 21′ 51″ W.	29·96	82	81	30·00	80	82	29·93	86	82	30·00	84	82	Variable.	2	Cumulus.	Sultry.
12	11° 24′ 00″ S.	177° 35′ 50″ W.	29·98	82	80	30·00	84	80	29·98	84	82	30·03	83	79	Variable. Ed.	q.	Cumulus.	Sultry.
13	12° 15′ 00″ S.	178° 54′ 50″ W.	29·98	80	80	30·03	79	78	29·94	80	79	30·03	81	80	Ed.	q.	Stratus.	r.
14	13° 46′ 00″ S.	178° 27′ 00″ E.	29·98	80	80	30·03	86	78	30·00	86	79	30·04	80	78	S. E. by E.	4	Cirro-Cum.	b.
15	15° 56′ 00″ S.	176° 04′ 10″ E.	30·01	80	78	30·08	78	78	30·04	80	78	30·04	77	76	E. S. E.	5	Cirro-Cum.	"
16	17° 55′ 00″ S.	174° 21′ 30″ E.	30·03	80	77	30·01	81	76	30·05	80	76	30·12	78	76	E. S. E.	4	Cirro-Cum.	"
17	19° 08′ 00″ S.	173° 03′ 45″ E.	30·08	74	76	30·12	81	76	30·03	81	77	30·13	81	78	East.	2	None.	"
18	20° 16′ 00″ S.	171° 44′ 15″ E.	30·04	82	78	30·11	79	74	30·13	76	76	30·13	75	75	S. E. by S.	4	Cirrus.	"
19	21° 37′ 00″ S.	169° 50′ 30″ E.	30·10	72	74	30·20	74	72	30·18	72	76	30·13	72	76	S. E.	5	Cumulus.	"
20	22° 28′ 00″ S.	169° 34′ 33″ E.	30·12	74	78	30·18	73	70	30·16	68	75	30·18	74	74	S. E.	5	Cumulus.	"
21	24° 24′ 00″ S.	167° 42′ 06″ E.	30·18	73	70	30·15	72	72	30·18	73	70	30·08	69	69	S. E. by E.	4	None.	"
22	26° 10′ 00″ S.	165° 43′ 55″ E.	30·20	73	69	30·22	70	70	30·25	71	69		68	69	S. E. by E.	4	Cirro-Cum.	"
23	27° 49′ 00″ S.	164° 02′ 00″ E.	30·26	68	81·5	30·30	77	71	30·30	70	70	30·00	73	70	E. S. E.	4	Cumulus.	"
24	28° 39′ 00″ S.	162° 51′ 53″ E.	30·00	69	67	30·30	72	67	30·30	76	73	30·25	72	68	Sd. and Ed.	1	None.	"
25	28° 56′ 00″ S.	162° 34′ 56″ E.	30·18	72	72	30·22	72	70	30·15	76	71	30·15	73	72	Variable airs.	1	Cumulus.	"
26	29° 16′ 00″ S.	162° 14′ 00″ E.	30·14	70	68	30·15	73	72	30·10	75	60	30·05	74	68	Nd.	4	None.	"
27	30° 33′ 00″ S.	160° 14′ 40″ E.	30·05	69	66	30·07	73	67	29·97	75	68	29·02	74	68	N. W.	4	Cumulus.	"
28	31° 31′ 00″ S.	158° 00′ 00″ E.	30·10	75	69	30·10	74	68	30·05	69	66	30·07	73	67	S. E.	5	Nimbus.	q.
29	32° 17′ 00″ S.	155° 11′ 38″ E.	29·98	63	68	30·20	71	66	30·20	67	66	30·20	66	65	S. E. to E.	4	Cumulus.	b.
30	33° 05′ 00″ S.	153° 12′ 55″ E.	30·20	69	66	30·13	72	70	30·10	70	64				E. to N.	4	Cumulus.	"
31	33° 52′ 00″ S.	151° 36′ 00″ E.			66										North.	7	Stratus.	"

XVII.

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP RELIEF.

NOVEMBER, 1839.

Date.	POSITION AT NOON.		3 A.M.			9 A.M.			3 P.M.			9 P.M.			WIND.		Clouds.	Weather.
			BAROM. AND THERMOM.			BAROM. AND THERMOM.			BAROM. AND THERMOM.			DAROM. AND THERMOM.						
	Latitude.	Longitude.	Barometer.	Air.	Water.	Barometer.	Air.	Water.	Barometer.	Air.	Water.	Barometer.	Air.	Water.	Direction.	Force.		
Nov. 1			30·03	67°	64°	30·01	70°	64°	29·99	69°	64°	29·88	68°	63°	N. E.	2	Mixed.	c.
2			29·88	68	66	29·88	70	68	29·80	70	68	29·74	68	68	S. E.	2	"	"
3			29·95	69	66							30·15	68	66	"	5	Nimbus.	r.
4			30·14	63	65	29·95	63	65	30·18	62	64	30·17	61	64	E. to W.	4	"	c.
5						30·16	64	66	30·15	66	68	30·04	66	64	N. E.	5	"	r.
6			29·82	66	64	29·80	70	64	29·48	77	65	29·80	66	64	N.	4	Cumulus.	c.
7			29·80	66	63	30·04	66	64	29·68	70	64	29·80	68	66	W.	5	Cum. Strat.	b.
8			29·80	68	66	29·88	69	63	29·97	67	63	29·98	62·5	63	"	4	"	"
9			30·00	66	63	30·00	69	63	29·93	65	64	29·98	62	63	N. E.	4	Cumulus.	c.
10						29·82	71	64·5				29·82	62	63·5	"	2	"	"
11			29·92	61	62	29·70	68	62	29·92	68	64	29·82	60	63	N. W.	6	Mixed.	"
12			29·82	60	62	29·98	61	62	29·87	63	62	29·88	61	62	S. W. to S. E.	4·5	"	c.
13			29·82	62	63	29·98	69	63	29·62	63	63	29·62	60	62	N. E.	2·5	Cumulus.	"
14			29·56	57	62	29·62	66	62	29·70	72	63	29·78	62	63	S. E. to W.	2·4	Cum. Strat.	b.
15			29·82	62	62	29·79	68	62	29·70	64	62	29·83	59	62	N. W. to E. S. E.	4·5	Nimbus.	t.
16			29·82	55	56	29·85	49	62	29·86	52	61	29·98	56	62	S. W.	4·5	"	q. r.
17			29·98	56	63	29·98	62	62	29·98	60	62	30·00	60	62	S. W. to S. by W.	5·6	"	"
18			29·94	66	61	29·80	63	62				29·83	64	62	S. W. to N. E.	2	Cumulus.	b.
19	Left Sydney.		29·97	62	62	29·87	65	61	29·68	71	63	29·68	71	63				
20	33° 54′ 00″ S.	151° 59′ 15″ E.	29·66	64	63	29·70	65	63	29·70	65	63	29·70	66	66	Variable.	4	Mixed.	q.
21	34° 46′ 00″ S.	153° 58′ 20″ E.	29·70	66	63	29·70	70	63	29·74	72	62	29·84	66	63	Westerly.	4	Cirrus.	b.
22	35° 28′ 30″ S.	156° 50′ 58″ E.	29·82	65	67	29·88	69	64	29·86	67	65	29·85	65	64	Nd and Wd.	4	Cirro. Cum.	b.
23	36° 40′ 00″ S.	160° 03′ 14″ E.	29·72	66	64	29·59	66	64	29·54	68	62·5	29·48	63	60	N. N. E.	5	Cumulus.	c.
24	37° 34′ 00″ S.	163° 34′ 50″ E.	29·30	62	61	29·22	62	59	29·30	62	59	29·54	56	57	Wd.	7	Cumulus.	r.
25	38° 07′ 00″ S.	166° 55′ 00″ E.	29·67	61	66	29·67	61	57	29·74	60	58	29·79	60	58	Wd.	4	Cumulus.	c.
26	38° 30′ 00″ S.	169° 35′ 20″ E.	29·84	60	58	29·86	60	59	29·89	62·5	59	29·96	61	59	S. W.	4	Cumulus.	b.
27	39° 00′ 00″ S.	171° 54′ 56″ E.	29·95	58	58	29·98	62	58	29·97	61	58	30·00	60	57	S. to S. W.	4	Mixed.	b.
28	40° 16′ 40″ S.	173° 20′ 58″ E.	29·03	59	57	30·04	58	54	30·04	58	54	29·98	58	57	S. E.	7	Mixed.	f.
29	40° 05′ 00″ S.	172° 50′ 00″ E.	29·88	58	57	29·80	59	57	29·79	62	57	29·81	61	57	S. E.	9	Mixed.	f.
30	39° 44′ 00″ S.	172° 46′ 37″ E.	29·80	60	58	29·84	64	58	29·86	63	56	29·86	60	57	Wd.	2·4	Cumulus.	b.

Sydney, New South Wales. Lat. 33° 19′ 00″ S. Long. 151° 17′ 00″ E.

XVIII.

METEOROLOGICAL OBSERVATIONS ON BOARD THE U. S. SHIP RELIEF.

DECEMBER, 1839.

Date.	POSITION AT NOON.		3 A.M. BAROM. AND THERMOM.			9 A.M. BAROM. AND THERMOM.			3 P.M. BAROM. AND THERMOM.			9 P.M. BAROM. AND THERMOM.			WIND.		Clouds.	Weather.
	Latitude.	Longitude.	Barometer.	Air.	Water.	Barometer.	Air.	Water.	Barometer.	Air.	Water.	Barometer.	Air.	Water.	Direction.	Force.		
1	40° 40′ 00″ S.	174° 18′ 43″ E.	29·85	60°	56°	29·96	60°	56°	29·88	68°	58·5°	29·98	58°	56°	Nd. and Wd.	4	Cirrus.	b
2	42° 24′ 00″ S.	175° 42′ 00″ E.	29·92	59	55	29·92	68	56	29·85	66	56	29·73	65	55·5	Nd.	4	Cirrus.	"
3	43° 57′ 00″ S.	179° 00′ 00″ E.	29·82	60	54	29·90	66	54	29·90	66	52	29·90	63	51	N. by E.	5	Stratus.	d
4	45° 55′ 30″ S.	177° 36′ 10″ W.	29·79	57	53	29·78	63	55	29·81	56	55	29·66	62	54	N. by E.	5	Stratus.	"
5	47° 27′ 00″ S.	174° 00′ 00″ W.	29·67	55	53	29·60	59	54	29·50	64	53	29·45	58	53	N. by E.	7	Stratus.	"
6	48° 03′ 00″ S.	172° 09′ 35″ W.	29·48	55	53	29·48	54	53	29·55	54	52	29·60	57	52	North.	4	Mixed.	f.
7	48° 35′ 00″ S.	168° 35′ 00″ W.	29·60	54	52	29·63	57	52	29·68	57	52	29·62	53	52	North.	5	Stratus.	"
8	48° 40′ 00″ S.	166° 39′ 18″ W.	29·64	52	50	29·64	53	52	29·63	58	52	29·55	67	51	Nd. and Wd.	5	Stratus.	t.
9	48° 43′ 00″ S.	162° 32′ 13″ W.	29·68	54	50	29·68	55	52	29·88	61	53	29·95	55	50	S. W.	5	Cum.-Strat.	b.
10	48° 55′ 00″ S.	157° 53′ 30″ W.	29·55	48	51	30·09	53	50	30·12	57	52	30·18	53	52	S. W.	5	Cumulus.	"
11	49° 14′ 40″ S.	153° 58′ 00″ W.	30·21	47	50	30·30	53	50	30·35	63	50	30·40	51	51	S. S. W.	4	Cumulus.	q.
12	49° 21′ 00″ S.	152° 23′ 20″ W.	30·43	49	52	30·40	57	52	30·50	62	51	30·50	57	52	Variable.	2	Mixed.	"
13	49° 41′ 00″ S.	150° 39′ 00″ W.	30·46	50	51	30·43	55	50	30·39	59	50	30·33	55	47	Nd.	4	Mixed.	c.
14	50° 44′ 00″ S.	146° 62′ 45″ W.	30·28	51	49	30·22	50	49	30·11	50	49	30·07	56	48	N. N. W.	5	Mixed.	"
15	51° 34′ 30″ S.	140° 25′ 25″ W.	30·04	47	48	29·91	49	48	29·88	50	48	29·84	50	48	N. W.	5	Mixed.	"
16	51° 40′ 00″ S.	134° 14′ 00″ W.	29·61	47	46	29·50	48	48	29·51	48	46	29·52	44	45	N. W.	5	Mixed.	f.
17	51° 32′ 00″ S.	132° 03′ 00″ W.	29·52	43	42	29·84	47	47	29·38	50	46	29·38	49	45	Ed.	2	Stratus.	"
18	52° 30′ 00″ S.	129° 48′ 20″ W.	29·36	47	46	29·36	50	44	29·36	48	44	29·26	46	46	W. S. W.	4	Cumulus.	c.
19	52° 29′ 00″ S.	124° 38′ 50″ W.	29·22	42	42	29·11	42	42	29·40	42	42	29·42	45	44	W. S. W. to S. W.	5	Mixed.	h. q.
20	52° 29′ 00″ S.	119° 03′ 00″ W.	29·20	46	44	29·12	47	43	29·02	45	43	29·03	43	43	Westerly.	9	Gen'ly Stratus.	q.
21	52° 41′ 00″ S.	113° 43′ 30″ W.	29·02	41	42	29·13	43	44	29·20	40	44	29·18	40	42	W. S. W.	7		r. b. s.
22	52° 46′ 30″ S.	108° 01′ 15″ W.	29·08	39	43	29·04	44	44	29·02	44	44	29·04	40	43	W. S. W.	5		h. s.
23	52° 51′ 00″ S.	103° 04′ 40″ W.	29·02	41	43	29·28	44	44	29·41	44	43	29·51	43	43	S. W.	4	Cumulus.	b.
24	53° 09′ 00″ S.	99° 06′ 40″ W.	29·25	42	43	29·65	44	44	29·72	45	43	29·67	42	42	S. by W.	7	Gen'ly Stratus.	c.
25	53° 25′ 00″ S.	96° 44′ 48″ W.	29·06	42	42	29·78	48	44	29·80	47	44	29·89	47	44	S. to N. W.	2		"
26	54° 16′ 00″ S.	92° 30′ 05″ W.	29·84	46	44	29·84	46	44	29·95	48	44	30·00	47	44	Wd.	4		l.
27	54° 50′ 00″ S.	88° 01′ 45″ W.	30·06		44	30·06	46	43	30·04	46	44	30·04	45	44	Wd.	4	Cumulus.	c.
28	55° 33′ 00″ S.	81° 58′ 07″ W.	30·02	44	44	30·02	46	42	30·02	46	44	30·06	46	46	N. W.	5	Cumulus.	b.
29	56° 00′ 00″ S.	75° 10′ 00″ W.	30·00	46	44	29·92	45	44	29·86	47	44		47	44	W. N. W.	4		f.
30	56° 43′ 00″ S.	71° 19′ 20″ W.	29·66			29·62			29·77	48	41	29·80	44	42	W.	4		c.
31	56° 05′ 00″ S.	66° 89′ 00″ W.	29·79	43	44	29·84	44	44	29·80	44	43	29·80	46	42	Nd.	4	Cirro-Cum.	b.

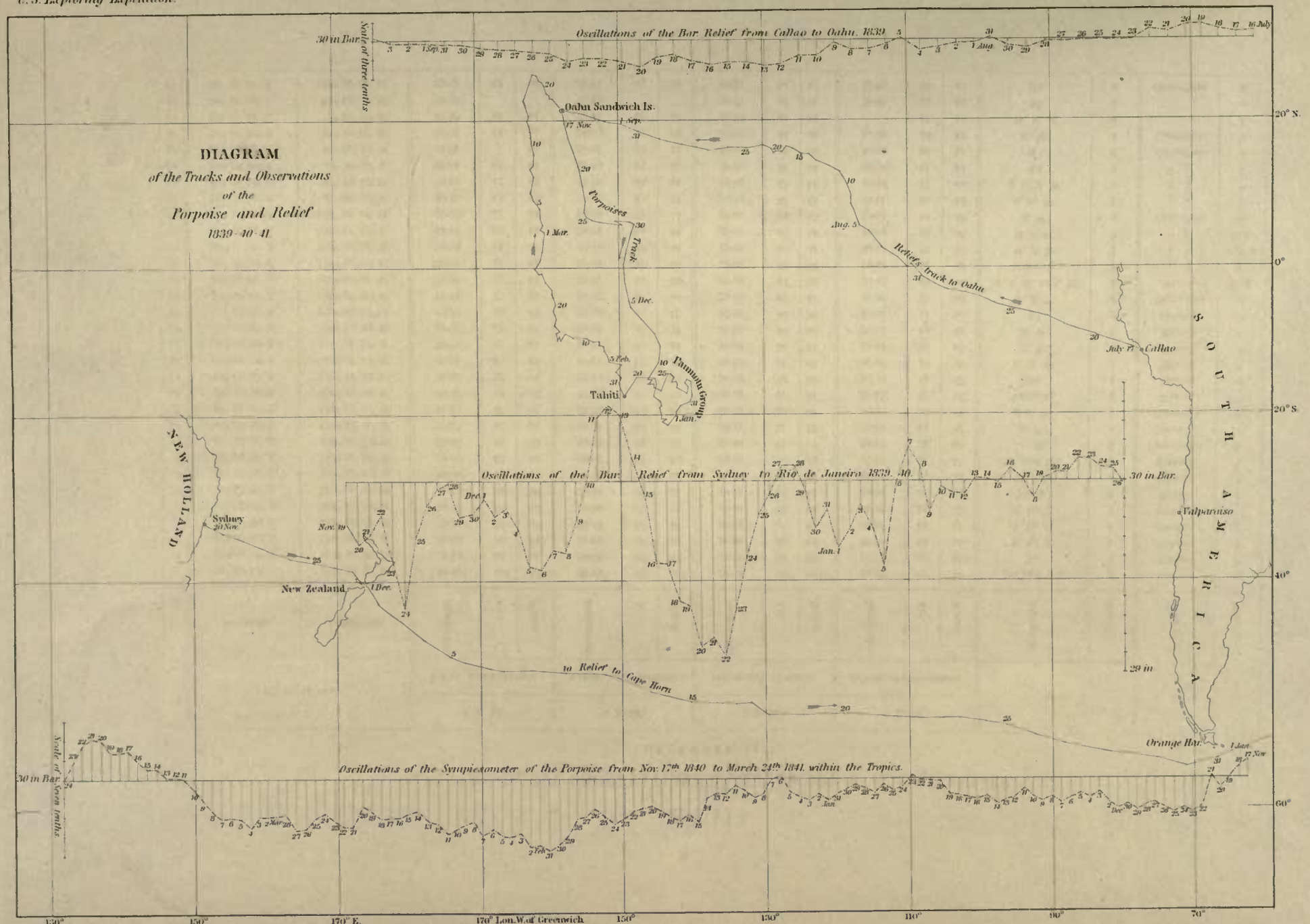


DIAGRAM
of the Tracks and Observations
of the
Porpoise and Relief
1839-40-41
Oscillations of the Bar. Relief from Callao to Oahu. 1839
30 in Bar.
Scale of three tenths
Oahu Sandwich Is.
17 Nov.
1 Sep.
Porpoise's Track
1 Mar.
5 Dec.
5 Feb.
1 Jan.
Paumotu Group
Tahiti
Aug. 5
Relief's track to Oahu
July 17
Callao
SOUTH AMERICA
Valparaiso
Oscillations of the Bar. Relief from Sydney to Rio de Janeiro 1839. 40.
30 in Bar.
29 in
NEW HOLLAND
Sydney
20 Nov.
Nov. 19
Dec. 1
New Zealand
1 Dec.
Jan. 1
Relief to Cape Horn
Orange Bay
1 Jan.
17 Nov.
Oscillations of the Synpiesometer of the Porpoise from Nov. 17th 1840 to March 24th 1841 within the Tropics.
30 in Bar.
Scale of Seven tenths
20° S.
0°
20° S.
40°
60°
150°
150°
170° E.
170° Lon. W. of Greenwich
150°
130°
110°
90°
70°

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